

## **Historic, archived document**

**Do not assume content reflects current  
scientific knowledge, policies, or practices**

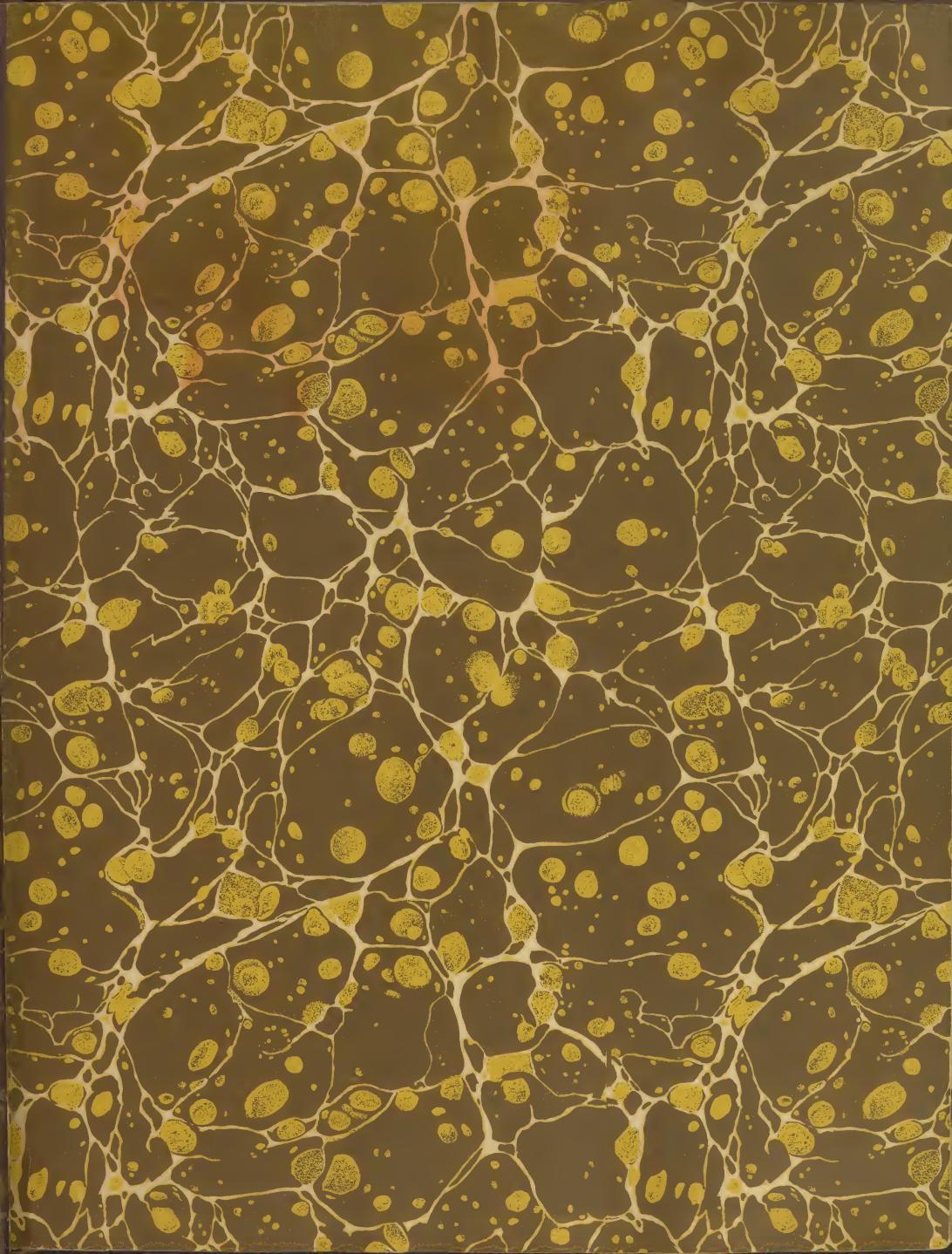




UNITED STATES  
DEPARTMENT OF AGRICULTURE  
LIBRARY



Book number 430  
G51L





Bombycidae (continued) Maudie L. Gray  
pp. 60.

Tawnend Glover.

Dept Ag

Washington May

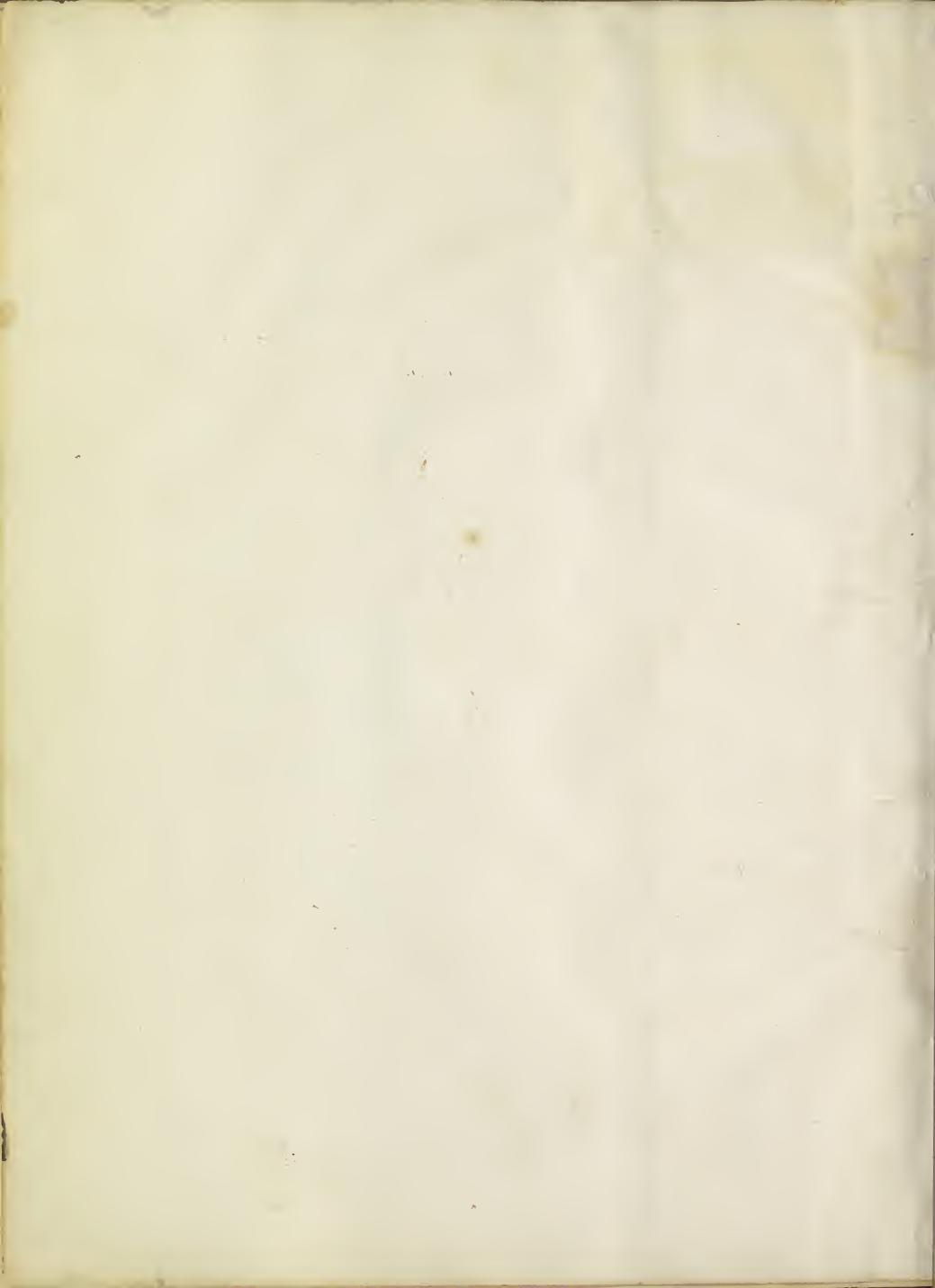
<i>Schizura</i>	<i>epica</i>	ad
<i>Caloctasis</i>	<i>Edmundsii</i>	Porter
"	<i>lejuttata</i>	
"	<i>harrissii</i>	
"	<i>convergens</i>	
<i>Staurossa</i>	<i>liquidator</i>	
<i>Heliocampus</i>	<i>umbrosata</i>	
"	<i>transvolatii</i>	
"	<i>guttivella</i>	
"	<i>phyllotrichodes</i>	
"	<i>eucrea</i>	
<i>Anisognatha</i>	<i>marina</i>	
<i>Peruda</i>	<i>cordifera</i>	
"	<i>scitioriphra</i>	
<i>Dysopteryx</i>	<i>irregularis</i>	
<i>Phalysania</i>	<i>californica</i>	<i>Calodactylodes dysopteryx</i>
"	<i>argentea</i>	
"	<i>californica</i>	
<i>Ullucus</i>	<i>avonota</i>	Uhler
"	<i>dagyna</i>	
<i>Pseudoharis</i>	<i>Eulantana</i>	
	<i>fica</i>	
<i>Hypochimia</i>	<i>Kellneri</i>	
<i>Amicta</i>	<i>virginiana</i>	
<i>Cathartoptilia</i>	<i>ferregea</i>	
<i>Solyje</i>	<i>ruinata</i>	
<i>Ascodipteron</i>	<i>californica</i>	
<i>Xyleutes</i>	<del>maculata</del>	
"	<i>stigmuli</i>	
"	<i>fragilis</i>	
"	<i>quercifolia</i>	<i>S. macularia</i>
<i>heuzera</i>	<i>Pyrena</i>	
	<i>caudalis</i>	
<i>Stenopis</i>	<i>argentimaculata</i>	
"	<i>huayrasensis</i>	
<i>Hoplalus</i>	<i>hypothorius</i>	
"	<i>Labradorius</i>	

continues page 121. *Melitaea*.

List of Desiderata

Diurnal Lepidop.	p. 40.	examined	20 Aug 1870
Sphingidae	<i>Aegerita</i>	p. 41	" "
Bombycidae	<i>G. C.</i>	p. 60.	p. 82 "
Noctuina		p. 121	" "
Nell. Geom. <i>Ennomos</i> <i>lunaphi</i>	2	p. 122	" "
Idow. <i>Larsat. Eubol.</i> <i>le scandens</i>			
Psychocidae		p. 138	" "

Unknown *Lithacolla* & *Zine. bilineata* } p. 144 " "



212628

ability to split or  
clean  
open tail  
of the convolvulus

*Schizura (Scrubbed) gemmae* Hübner. 1798. 11 *Scrubbed Gemmae*.  
*Watercampia* — " Mor. Syn. 241.

Hub. Fla. (Nauble) Pack.

holes hollow  
stems left.

urine one  
comes horn.

*Caelodasys (Pack) unicornis* Pack. Gyp 12 Pack P.E.S.P. 3.364 Pack guide 292  
*Phalaesha* — " Syl. p. 86.

var ♂ *Edema semirufescens* Walk. 1792 Tr. U.S. 2. 86  
*Edema humile* Walk. " " " " " Lar. pe 4  
*Edema unicornis* Mor. Syn. 241

*Note doula* " Mor. 22. Har. 42. Fitch 1794 Soc. 2. Ins pe 57  
im. i. 251. 1796. 1836. 363

*Prominent* or *Unicorn Moth* (S.A.) *Unicorn prominent* (Fitch)

Lar eat a notch in the side of a leaf & placing itself in this notch  
resembles the edge of the leaf. It afterward eats the whole leaf. May (Gos) July (Md.)  
Pupa formed in parchment like cocoon often covered with  
pieces of the leaf; the caterpillars remain a long time in their cocoons before changing to pupae.  
Ins probably 2 broods yearly in the southern States first brood July (Gos) Pack

Food plants Apple Red or black berried Alder Hogwood  
Plum Winterberry  
Hub. Mass. Maine (Pack) Mor. (Gos) Can. (Saunders)

specific name derived from the horn on the back of the caterpillar

Forewing light brown with patches of greenish white  
many dark brown lines, hind margin white, near  
inner angle a small white & 2 black dashes. 1.25 to 1.50



*Sesuvia* (dubius) sp. near Noctilio. Gyr. II

*Schizura confusus*.? Mar. o. Gyr. II  
no. 44 of Harris' cabinet in Coll. of Batt. Soc. Nat. Hist. Ins. pl. 105. fig. 14. M. Sanderson

apical

*Coelodasys apicalis* Gyr. Gyr. II. Gyr. PEST. 6 p. 15. pl. 2, fig. 2. Pack. o

Ins. pl. 78  
fig. 14 o fm Gyr. fig.

Hab. Easton St (Grote)

differs from *C. unicornis* by the apices of the anterior wings being more produced  
the costal nervures more curved by the general coloration.

*Coelodasys. leptinoides* Gyr. Gyr. II. Gyr. PEST. 3 p. 323. (?) Ins. pl. 177. fig. 4  
*Heterocampa* " Grote q. pl. 4, fig. 2 { Pack. o 1933.

Ins. pl. 80  
fig. 7 o fm Gyr. fig.

Hab. Rhode Is. N.Y. Pa. Mid 8<sup>th</sup>

♂ pl. 80  
fig. 10 q. " "

*Coelodasys Edmandsii* Pack. Gyr. II. Pack. PEST. 3. 364

*Edmunds coelodasys*

Hab. Mass. (Pack.)

2 spotted like drops

*Coelodasys biguttatus* Pack. Gyr. II. Pack. PEST. 3. 365. } Am. Nat. IV. 229.  
♂ *Heterocampa ducens* Walk. Gyr. To AES 2. 85. } Pl. 2.

♀ *Heterocampa cymata* Walk. " " } female un

♂ *Heterocampa eutetra* Walk. " " } Sp. name & occurrence  
*Coelodasys biguttata* Beckw. Cau. Ent. 1. 44. } fm. 3 & 4. unpubl. in  
July 9 Aug. Mass. } Zygone

Hab. Mass. (Pack.), Cau. (Bisham Cau Ent. 1. 44)

*Coelodasys. Harrisii* Pack. Gyr. II. Pack. PEST. 3. 366  
Harris. Coelodasys

Hab. Mass. N.Y. (Pack.)

dark front

*Coelodasys cinereofrons*. Pack. Gyr. II. Pack. PEST. 3. 366

*Heterocampa astipennis* Walk. Gyr. To AES 2. 85

June 16. Yonkers.

Hab. Mass. (Pack.)



- ? Driv  
mauve color
- Ianassa* (Walk.) *leguminosa* Walk. Gyr. 12. ♂ Gyr. Tr. A & S. 2.73 Bethune Can Ent 1/45  
 ♂ *Xylinodes rugigata* (Pack) PESP. 3. 368  
 ♂ *Edema?* *transversata* Walk.  
 ♀ *Exaereta leguminosa* Walk. Gyr. Tr. A & S. 2.86  
 a species of *paroxygia* according to Gyr.  
 L. found on Walnut.  
 Hab. Mass. With Rhode Is. (Pack) Can. (Bethune)

- Expos. diurnal  
Kupty.  
Adverte myth name
- Heterocampa* <sup>(*castanea*)</sup> *castanea* (Doubled) Gyr. 12  
 ♀ *Heterocampa varia* Walk. testa S. V. A pl. 116. (Gyr.) Pack PESP. 3. 368. Mor. Syn. 240.  
 " " " Gyr. Tr. A & S. 2 p. 73.
- Lar fed on Oak (Ill.) Walk  
 Hab. N.Y. (Pack)  
 Ins. pl. 68  
 fig. 24 Ill coll. of Mr. Walsh

- oblique
- Heterocampa obliqua* (Pack) Gyr. 12. Pack PESP. 3. 368 Gyr. Tr. Um. E.S. 1/1/78 pl. 1  
 Larvae figured found feeding on Oak (Ma) Aug & Sept.  
 Hab. N.Y. to Pa.  
 Ma (TG)  
 Lar. pl. 13 { Oak sep. Ma  
 fig. 25 } changed Sep into pupa in Spring  
 Lar. pl. 13 { Oak last Aug Ma  
 fig. 26 } changed Sep pupa in Spring into  
 Food Plant Oak.

- pulverous  
busty
- Heterocampa pulverea* Gyr. 12. Gyr. Tr. A & S. 1 p. 185. pl. 4 fig. 32 ♀ Pack. o.  
 ♂ unknown. S. V. A pl. 120.  
 The Larva figured was taken on Oak July Ma. Ins. pl. 64  
 + I am almost certain that the insect is 66/28 fig. 28 Ma.  
 Hub. Pa. (Grate) Ma (TG) although there is a ♀ after it  
 in my note book. Food plant Oak!

- of own color
- Heterocampa unicolor* - Gyr. 12.  
*Lochmaeus unicolor* Pack. PESP. 3. 373.  
 Larva fed on Sycamore Ill by Mr. Walsh.  
 Ins. pl. 67  
 fig. 22. Coll. of Mr. Walsh  
 Illin

- ✓
- Heterocampa marnettiae* Gyr. 12  
*Phalaena* — " Cram (266 B)  
*Lochmaeus tessella* Pack. PESP. 3. 370  
*Heterocampa tessella* Gyr. Tr. Am. Ent. Soc. 1. 182. pl. 4 fig. 29 ♂  
*Cerura turbida* Walk. Gyr. Tr. A & S. 2.85  
 see S. V. A pl. 119.  
 Hab. Md. St. (Pack) 114. (Heid)  
 Ins. pl. 66  
 fig. 24 coll. of Mr. Wiedemeyer Md.

*Cetocampa* Loui *satrata* Harvey 104/6

2 wavy or marsh  
with 2 wavy lines

*Heterocampa biundata* Walk. *GHR* 12.  
*Lochmaeus olivata* Pack. *PESP* 3. 370. *GHR* *TAE* 2. 73  
*Heterocampa semiplaga* Walk.  
*Staunopus viridescentia* Walk. *GHR* *TAE* 2. 85. *Ins pl.* *59*  
*Syl* *fig* *pl* 118. *Fig* *8* *Md.*

*Hab* Mass. Rhode Is<sup>2</sup> (Pack.) *Illi* (Walk) *Md* *LG*,

brown

*Heterocampa brunneata* *GHR*. *GHR* 12. *Gr & R* *In Am E Soc.* 1. p 180 *pl 4 fig 282* *Pack* 0.  
*S unknown*.  
Syl q *fig* *pl* 121.  
*Hab* *Pa* (*Gr*)

*Ins pl* *68*

*31.*

*28. coll of Mr Walsh Heli*

*Md*

*Ins pl* *58*  
*Fig* *3* *47m* *GHR* *fig*.

umbra a shade or  
damp

*Heterocampa umbrata* (Walk.) *GHR* 12.

*Heterocampa trouvilletii* (Pack) *GHR* 12. *Pack* *PESP* 3. 370.  
*Trouvilletii* *Heterocampa*  
*Ins taken last July.*

*Hab* *Mass.*

drop or spot striped

*Heterocampa guttivitta* (*GHR*) *GHR* 12.  
*Cecrita guttivitta* *Woll.*  
(?) *Ever* {*Heterocampa*} *biundata* *Pack.* *PESP* 3. 370 (*GHR* 12.)  
*Hymenaea mucronata* *H.Sch.*  
*Hymenaea undeterminata* *Walk.*

(?) *Hab.* *Mais.* Rhode Is<sup>2</sup> (Pack.)

resembling *Thyatirina*

*Heterocampa thyatiroides* (Walk.) *GHR* 12.

ashy

*Heterocampa cinnerea* *GHR* 12.  
*Lochmaeus* " *Pack.* *PESP* 3. 372.  
*Misogada sobria* *Walk.*

*Hab* *Maine* (Pack) taken at light

marina

*Heterocampa marina* *Pack.* *GHR* 12.  
*Lochmaeus* " *Pack.* *PESP* 3. 373

*Hab* *Abaco Is<sup>2</sup>* (Pack)

(83)

*Platycerura furcella* Pack

I feed on Pine ~~allows~~ maturity about  
mid Sept. pupates in a slight cocoon  
among leaves on the surface of the earth

London 23 Aug Rep  
Mys cat has his 61

*Heterocampa* Sp.

Hab. Ind.

Ins pl 59  
fig 2. Ma

elongata

*Heterocampa elongata* Gyr. Gyr II Gyr Tr Am Ent Soc. 1. p 184 184 fig 30.

Hab Pa. (Gr.)

Ins pl 86  
fig 1. fm Gyr fig 8Adults frequenting  
bushes or thickets. *Lex-*  
*campetus* agads.♂ *Lochmaeus manteo* (Walk.) Gyr. 12*Lochmaeus manteo* (Moulted) Mor Syn 240*Heterocampa subalbicans* Gr. P.E.S.P. 2 pi. 386, 3, 539. pl 8 fig 2.*Sodana cuneascens* Walk. Gyr Tr AES 2. 73.? *Lochmaeus mantes* (Pack) P.E.S.P. 3. 370*Heterocampa mantea* Walk. Gyr. Tr AES 2. 73.

+ Bethune Can Ent 1. 44.

Ins pl 79

fig 11 fm Gyr fig.

Hab Pa. (Gyr 336) Can (Gyr 539) Trenton falls. Geo. Pack.

Can (Bethune Can Ent 1. 44)

*Lymonia*? *confusa* Walk. Can Ent 1. 88.

Hab Can.

Thats broad  
repas horn evated  
furcata a little fork*Platycerura* (Pack) *furcata* (Pack) Gyr. 12. Pack P.E.S.P. 3. 378.Lar from original colored drawing kindly lent by Mr. Lentzell Albany, who says it feeds on *Pinus strobus*.

Ins from a drawing in stone kindly lent by Mr. Grate, N.Y.

Mr. Grate, N.Y.

Lar 99

fig 14. fm original colored drawing by Mr. Lentzell Albany

Ins pl 81

by Mr. Grate

Hab. May (Pack) Can rare (Saunders)

Food Plant Pine

fig 2. drawing by Mr. Grate

*Pinus strobus* with Lentzell.*Cerura* (*schranki*)*borealis* (Har.) Gyr. 12. Har. 422. Mor Syn 238. | Lar pl 10

Ins pl 56

fig 22 fm SVA pg

Phalaena furcata [S. 4 A (error) pl 72.

12-13 L.M. 20

Decimocerura borealis Bdv. (*Decimocerura* Kollar math.)

fig 4 Wild Cherry

Northern Cerura or fork tail moth. (Har) Kollar math (SVA)

fig 35. Mc. Sop.

Northern Cerura or fork tail moth. (Har) Kollar math (SVA)

Ins pl 44 coll. of Mr.

Kollar math (SVA) fig 35 Acknowled.

Lar when disturbed throws out of its forked tail two soft orange colored

threads or filaments probably for the purpose of drawing off any parasites cinnamon flies

Pupa formed in a case or cocoon made of chips of wood cemented together

with a sort of gummy substance which issues from the mouth of the

larva, this cocoon is fastened on a branch or trunk

cocoon lower side flat fitting to the object to which it is fastened upper side convex

Aug (Geo) Ins 24 up (Geo)

Food plants Poplar Hallow Wild cherry

Hab Mass. Rhode Is. N.Y. (Pack) Geo (SVA) Md (T) Can. (Saunders)

" *Cerura* Puss or kitten moth. of England. Inst. 2. 387*Cerura*. ? Grose authorityIns pl 48  
fig 5 Ma*Cerura canina* Walk. Gyr. 12. Pack 0 is not this *Heterocampa* P. 83.*Cerura scripta* Walk. Gyr. 12. Pack 0.



"*Platyperix* constitutes a most anomalous group which in the imago state seems to be one of the types of form of this fam (Scometridae) but its larvae (fig 109 no 18. Pl. lacertula) are altogether distinct & resemble more nearly those of *Cerura* (Inst 2 p. 398.) Note Westwood's figure certainly does resemble *Cerura* somewhat but not nearly so much as the fig in Pack, taken from a sketch by Smith & Abbott - the tail is Westwood's fig being short & curved. 2 of each of the segments of the body roundish & surrounded by bristles.

This fig has been copied to show the difference in how the larvae are taken here

"*Platyperix* Larva slender with 14 legs, naked, with several little prominences on the back & the tail forked like *Cerura* the pupa is enclosed in a cocoon among leaves." Pack guide 293 13

*Platyperyginae* placed by Westwood as { *Scalae* for Lar. fm fam 2<sup>nd</sup> Geometridae { Abbott's sketch

(*Platyperyginae* Synonymy & his AR Grate Br. Ent Soc. 2/165) Garpl 100  
fig 14 fm Pack.

Spermatia a sickle  
acuminate awl-like (error)

*Hesperana* (Schrantz) *arcuata* (Walker) G.R. 12. Gr. & A.E.S. p. 66. G.R. Jr. 288. 2. 74

*Platyperix* *furcula*? Notes 12 (syn) G.R. 1862 p. 59.

*Platyperix* *tabula* Goots P.E.S.P. 1 p. 346. pl. 3 fig 2. Po A R.S. Phil 1862 p. 59.

" " (mentioned as syn) Gr. Jr. A.E.S. p. 66.

*Platyperix* Hook tips. Newman 207 caterpillar figured by Newman resembles XIII. 7 of my fig.

Ins pl. 62  
fig 13. Md.

Ins pl. 67  
fig 25. fm Grotto fig.

Note "distinguishable from the following by the ground color & the disposition of the bands on the superior wings" (Gr. P.E.S.P. 1 p. 346)

genuculus in angle  
or corner

*Hesperana* *genicula* (Walker) G.R. 12. Gr. & A.E.S. p. 66. Pack P.E.S.P. 3. 374

*Platyperix* *genicula* Gr. P.E.S.P. 1. p. 346. pl. 3 fig 3. Gr. Jr. Acad. N.S. Phil 1862 p. 59.

Ins. Plate 67  
fig 24. fm Gr. fig.

*Drepanodes juniperaria* Pack 1<sup>st</sup> May Rep. 23. fig<sup>2</sup> Am. Mus. V. 423

Juniper span worm.

L. slightly resembles a portion of the branch of Juniper on which it feeds. When full it holds itself stiff & elongated about 12 days.  
P. pea green. It remains as pupa about 12 days food Plant Juniper

L. 1 inch & 1/2 long, less than a line in thickness body rather smooth with a few tubercles in rear form resembling the scale left by the falling of the leaves of Juniper  
Ins pale fawn with a very thin resembles Proteus *D. aquosus* but is not at all banded with purple on upper side of wings

Spermatia a sickle

*Drepanodes* not in G.R. list or Pack but placed here as they evidently belong near *Hesperana*.

*Drepanodes* *shortliffei* See Verne  
*Shortliffe* = *Drepanodes*,

but then.

Ins pl. 73  
fig 44 coll of M. Sambava Mus.

(85)

814  
55

p. 12 - 14

Pleurostoma arcuata  
deparende,

63/3. In No.

*Anepanodes aquosus* S. S. Grote. Ann. Ent. Soc. Amer. Vol. 2. 114.

Hab. N.Y. Mass. & U.S. (Alabama) Can. Bratis. Penn. Ind. 2. 114.

ripe of age, full grown. *Anepanodes puber* ♂ GHR List 0 GHR Ann Lyc Nat Hist N.Y. vol. 8 Apr. 1867 page 20 pl. 15 fig 1.

Hab. N.Y. (Alabama. Bratis. Can. Ent. 2. 114)

Ins pl. 77  
fig. 80. fm GHR fig.

aquosus wet

*Anepanodes aquosus*. ♀ GHR List 0 GHR Ann Lyc Nat Hist N.Y. vol. 8 Apr. 1867 page 21 pl. 15 fig 3.

Ins pl. 77  
fig. 32. fm GHR fig.

virus crossed?  
virus or spot?

*Anepanodes virus* ♀ GHR List 0 GHR Ann Lyc Nat Hist N.Y. vol. 8 Apr. 1867 page 21 pl. 15 fig 2.

xx/16. No July

Hab. N.Y. (Alabama. Bratis. Can. Ent. 2. 114)

Ins pl. 77  
fig. 51. fm GHR fig.  
93/11

stains broad.  
upper wing.  
2 lines

*Edapteryx* Grote in circula

*Platypteryx (Laspeyres)* bilineata Gr. GHR 12. GHR Tr A.E.S. 2. p. 66.

*Edapteryx bilineata* Pack P.E.S.P. 3. 876. Gr. P.E.S.P. 3. p. 539 — pl. 6 fig. 9. ♀

Ins pl. 80  
fig. 14. fm Grote fig.

Hab. Can. (Saunders). Pa 8°

Ins pl. 88  
fig. 16. Call of Mr. Saunders, Can.

spur oak.  
? deriv.  
or Long point claim a half  
catty back from  
now

*Ithyopteris* (Grote) rosea (Grote) GHR 12. Gr. P.E.S.P. 1. 345 pl. 3 fig. 1.

*Neptuna* rosea. Walk. Mon. Syn. 219.

*Ciles americana* H.S. ~~to 2.75~~

*Platypteryx formula* Grote Br. Acad. Nat. Sc. Phil. 1862. p. 60

var. *Neptuna marginata* Walk. Gr. P.E.S.P. 1. p. 345 Pack. P.E.S.P. 3. 377 Mor. Syn. 219. & GHR Tr A.E.S. 2. 74.

Ins pl. 49 Ins pl. 58 Ins pl. 97  
(Can) fig. 13. May. fig. 5 May. fig. 29. Ile call of 3  
Mass. (Pack.) Can rare (Saunders) M. Socie. ang. 1862.

Hab. Mass. (Pack.) Can rare (Saunders)  
1067. Ma. (S.G.) nova scotia Borthum Can Ent. 1. 104

immature  
sprinkled with dew.

*Ithyopteris irroraata* (Pack.) GHR 12. Pack P.E.S.P. 3. 877. I 55/5 Md

Hab. Nova Scotia Borthum Can Ent. 1. 1044. taken at light Maine Aug.

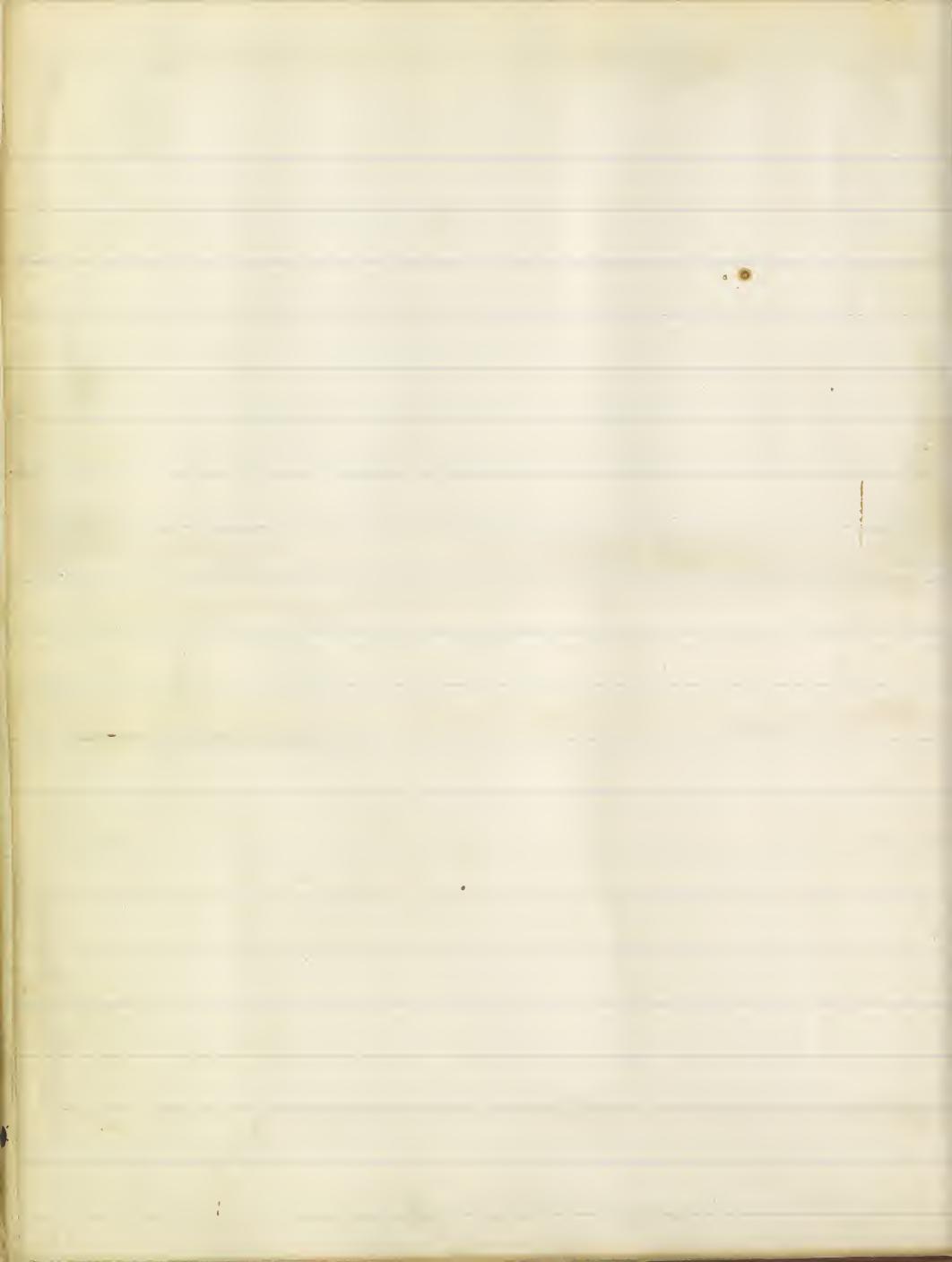
*Ithyopteris*? Lar. outline see pack guide p. 293 Lar pl. 100  
fig. 14. fm Pack

*Ithyopteris*.

Am. Nat. IV. 229. pl. 2. fig. 3.

G.P. Grote Smith & Abbott's unpublished figures Pack

Larva feeds on *Vitis vulpina* nudum. (Wither Rosd.) 85



? down  
resembling a Dryopteris

*Callidopteryx oxyptera* Grote. T. & S. 2. 120.

Image flies July. Aug.

Ins. pl 74/17.

16

Hab. N.Y. Pa.

apparently allies to *Spiranthes* Guen & *Spiranthes* of Wmth.

*Eudatemia*

85-

85

*Tilia polyphemus* Riley 4<sup>th</sup> Rep 127. M. Trouvelot, <sup>from 2 grained, opening into the mouth</sup> <sup>insects</sup> states that the pupa can  
easily escape from its cocoon by smiting a blow to the pupa case  
so the quiescent or formerly mobile fibres of the cocoon, the fluid  
is congealed in a great part of *Bombyx* and which is secreted during  
the last few days of the pupa state when the fibres are <sup>around</sup> the  
head & legs of the moth being disengaged the pupa contracts to body.  
Such is the head freed from the fibres while the cocoon wrinkles  
up, the fibres separate. You <sup>can</sup> see the head of the moth not a  
fibre having been broken but only separated.

*A. Polyphemus*, Riley 4<sup>th</sup> Rep 1870, p 139. class

of our native moths *Polyphemus* is the most valuable  
important its silk being easily reeled & of excellent quality  
*Cecropia* comes next in order its silk being reeled with  
difficulty while that of *promethea* *silana* is of  
less value has never yet been & probably cannot  
be reeled.

the broadly feathered antennae of many moths and endowed moth with the sense of smell, other than hearing to enable the male to smell out the female. Pack. Am Nat 18 624

### Attacinal

*Cidea Huber*) *polyphemus* (Huf) G.H. 13. Pack. Pack PEST. 3. 378.

*Attacus* " Gen. Mon. 22<sup>nd</sup> Mar. 385

*Phalaena* " G.V.L. pl. 47.

*Saturnia* " Mon. 21.

*leucanophora* " Tech. N.Y.S. Ag Rep. 1856 vol 163 p. 455

Lep. 7 pg 5 Ma Oak Sep.

*Peacock Emperor moth* 8<sup>th</sup> c.

*Polyphemus moth* (Litch) <sup>underwing</sup> Ins. p. 57 Ma

Egg generally laid singly on a leaf or sometimes in 8 to 14 twigs (Travels Am Nat 1. 34. 145)

Lar. hatched on Oak (Ma) Aug.

Gutta formed in an oval cocoon made of silk among old leaves &c Sept (Mo.)

Ins. appears the following June & July (Ma) 36 (Morales. Am Nat 2. 156)

Food Blueberry Honey locust Birch Poplar Sycamore Hickory Basswood Maple Oak Rose plum

parasite Chalcis manicata Linn. 2. pl. 102 results 2. " 156 (Synonym 1. 173) 300 old plants Apple Butternut Chestnut

opion macrurum " 2. " 156 (Synonym 1. 173) Elm Lime Oak quince thorn Walnut Willow.

Tachina angustipennis R. & M. 195 (Synonym 1. 195) Lar. Hatching 128

Hawthorn (Saunders) Choke Cherry (Can Nat.) Maple (Saunders 1869)

For Mr. Travels account of culture &c see American Naturalist vol 1. Pack guide 298

Hab. Maine southward (Pack) Mass. (Har) N.Y. (Litch) Md. Va. (L.S.) Can. (Saunders 1869)

{ note in Welsh states that " the insect escapes from its cocoon by rubbing its rough head against the upper side, Riley on the contrary states that it emits a liquid which softens the cocoon & so easily cuts it." Prairie Farmer 19. p. 21

Lar. Apple green a pale yellow stripe middle of under side & orange conical points on each segment, yellow stripes from the base to mid point head & fore feet clay yellow & crooked with black downwards when at rest each segment of body is humped up.

Ins. dull yellow, hind wings not tailed clasped with black on mid veins one each wing is a brown pointed eye like spot. 5.00 to 6.50.

2. *Polyphemus*. ♂ & ♀. Many of these moths are remarkable for the instinct which the male possesses of seeking their females from very great distances & in situations apparently inaccessible to them, in great numbers. This habit which collectors call " sembling" is turned to good account when they happen to near females of rare species as they are certain to secure numbers of males if the female be taken to the woods (Nest 2. 384) in one instance an unimpregnated female was confined by the wings in an unoccupied room in the Maryland Agricultural College before 11 o'clock, fourteen males had entered the room altho' very few had been taken before in the neighborhood that season.

3. In those moths which spin a thick cocoon the pupa a few days previous to its exit secretes an acid fluid from two glands opening into its mouth. This fluid according to Mr. L. Trouvelot (Am. Naturalist vol. 1. p. 33) in his account of the Polyphemus silk worm dissolves the hard granular substance uniting the silken threads until after the expiration of half an hour the moth is able to push the fibres aside & work its way out without breaking a thread. Pack, p. 240

*A polyphemus* Am Ent 1. 121. fig.

note " a certain parasitic fungus has recently been introduced from Europe which is making great havoc among the larvae of this rather large moth belonging to this group in Mass." See Am Ent. 1. 112

The great trouble with any silk product very much raised in the open air without protection is from the attacks of various venomous birds several persons who have tried the Attacus Cyathia birds succeeded in hatching the eggs. state that the birds destroyed nearly all the worms before they had attained their full growth Rept. Det. Ag. 1866. 38.

There are several large moths natives of this country, the caterpillars of which would probably produce silk, namely, *Attacus* (*Tilia*) *polyphemus*, *Attacus* (*lutea*) *comstocki*. The first named has been <sup>described</sup> by Mr. Trouvelot, of Medford, Massachusetts, who states that in 1865 he had not less than a million of the caterpillars feeding upon bushes covering five acres of ground, and protected by a network. Of his success or failure in silk-making we have no account.

*Anthoeca* <sup>(Hufn)</sup> *Paphia* Linn.

*Phalaena* (*Attacus*) *Mylitta*

*Anthoeca mylitta* Hufn.

Cat. Lep. East India house p 385. pl XIX. 1.

Draug. II. p 8. pl 5, fig. 1.  
exacted das. { *Attacus mylitta* Pack grieve 296  
Saturnia mylitta Verhaer 2. 211  
as Tressch

Native names in India &c. Pugby, Kolissurra., Koukari, Mooga, Munga & Tressch

*A. Mylitta* Figure 287

silks perhaps superior to Pernijs. The cocoons when properly prepared the silk can with care be woven up from one end to the other. At Bengal Calcutta Satiere silk exported under the name of Lurex Brownish stuffs are made of it in India from bayas texture which are used for summe clothing or for covering furniture in 1855, M. de Chavanne heard this species in the open air near Lauzanne in Switzerland. The lacunae were succeeded without any degeneration for many years they however at last died out.

Food Oak. Figure

the cocoon. young larvae appear in May and formed in Sep. thatches into moth ready Satella Rosa Gellert.

In a branch by a thick consolidated cord 1 Tressch observes a most durable coarse by the Brahmins in India is 4 inches in length and obtains its formed in leaves glued together to form the Chrysalis remains dormant 9 months emerges at night domesticated but that the natives find their excrements dropping on the ground bringing them to trees near their huts and Bat

taphyllum, Morus indica L. 69 pl CXIII.  
a. *Rhopophora caseolaris* L. cat. 100  
a. *Lecana grandis* (Seak) 2. 100  
alata glabra. and *Catappa*. 2. 100

4<sup>th</sup> Wallace essay to Linn. Ent Soc vol V. 2.

*Anthoeca gamma* Macf. Guerin Menville. July 4<sup>th</sup> Rep 120

Name signifies "mountain of the mountains" native of northern Japan feeds on Oak Quercus serrata introduced into Europe in 1861. I experienced upon in America in 1868. Eggs when hatching should be kept in a moist atmosphere. Caterpillar state lasts from 37 to 80 days. Feeds on all oaks preferring however the white oak group. Dr. Malton of Colchester England states that it will feed also upon Beech Apple Juniper White-thorn *Nemopanthus medior* (*Photinia glabra*) & Chestnut. the length of time between hatching & pupation during which of which the larvae remain in the open air forming through 4 periods of rest is reckoned as about 160 days more or less according to the temperature.

The chrysalis is cleaved by a faint line cast in Japan Upo the caterpillar is subject to two deaths in one of which the caterpillar turns brown & bleeds & spattered the beautiful clear green skin

out of Sep in East India House 400. Lep. plxx. 3.

*caria nepalensis* & *Bixa Minordore*  
*nomada ovalifolia*  
*frinxilana*  
or pale oak of India - not the proper food but they移入 from 5000 to 7000 feet  
the oak has fallen beneath  
eggs & drops of a clear colorless fluid  
out of the Cocoon is dissolved before forcing

CXIV. 5. Cat. East Ind. 10. 382

CXIV. 6. "

"

"

"

"

"

"

"

"

"

"

"

"

*Anthoeca assama* Haffer.

Cat. East Ind. house 398. pl XIX. 2.

*Saturnia*.

Native names Mooga or Moonga of Cusam.

Although the Mooga moth can be reared in houses. it is fed and thrown out in the open air, are on the trees. It feeds on several plants or trees amongst which is a species of *Mitchella Tetranthera* *Diplothrix* *Macrophylla* & *Laurus obtusifolia*.

pl. 109/3. J. 109/3.

pg 6  
own word

its prop name  
maria  
alternating with  
the moon

- Actias* (Leach) *luna* (Leach) (Westwood) GHR 13. Walker Fitch Jr NYS Ag Soc 1856 vol 16 p 452  
*Attacus luna* Linn Hr. 282. Morris Inv 223  
*Phalaena* 5 Vd. pl 48.  
*Protopaca luna* Hb. Pack PES 14. 3. 379. S. Hall GHR } Lar pl 7  
*Saturnia* " - Mor. 21. Fig 3. Ma Walnut Sep.

18

(described by  
cognac laid in June )  
Can Ent 2. 27 }

- Green swallow tailed Emperor (S. H.) Ins. n<sup>e</sup> 48  
*Luna* moth (Fitch) Eggs 16. July. 210. from one female 17. 79.  
Larva found feeding on Walnut (Md) Esp 2 broods in a season (Md)

Sms appears March & July (Loc)

Cocoon about 1 1/2 to 2 inches in length formed of a dirty whitish silk - the first broods in Md. making a very thin & light cocoon among the fallen leaves on the ground & worth nothing as a fibro

Food plants. Beech Hawthorn Hickory Persimmon  
Sweet Gum, Walnut.

chiefly Butternut (Saunders Can)  
occasionally Walnut & Hickory (Stahl)  
Maple (Pack guide 298)

My closely resembles *A. Selene* & *Chionia* Fitch

Hab. Maine Southward (Pack) Can. (Saunders) Md Va S.C. Fla (H.)  
Can. Petham Can Ent 1. 14

THAKOS elegant.  
agassiz  
Splendid

*Attacus* (Linn) *splendida* (de Beauv) GHR 13. Pack PES 1. 3. 381 Mar. Egg 228  
Bombix — — " de Beauv.

Just pl 47  
Py 3 Texas coll of Dr Morris

4.75-  
5.50-  
8 light green hind wings traces of purple brown along veins  
edges of fore wings, 25-30 eye like transparent spot in  
center of each wing.

result, experiments W. W. Andrews Am Ent 2. 39.

*Antheraea* *Yama mai* see American Agriculturist 1867. p 363.  
*Attacus* " " Pack. guide p 297  
wrongly Tussell moth of Ann Ag. silk capable of being reeled off. (Ann Ag. Food Oak G. tinctoria & G. Cocceinae  
Hab. Japan " mentioned in connexion with the Fibrie or Silk disease Ann Ag  
Pack, has gained much attention in Europe" Pack guide 297 (86

*Antheraea* *Yama mai* Japanese Silk worm W. W. Andrews N York in Am Ent 2. 39

Int? 1868 or 9. at first hatched out Apr 26. fed on leaves rather than  
leaves of *Quercus*, *cocceina* - the leaves or twigs should be sprinkled with water when  
the larvae are young fed also on *G. tinctoria* but rather preferred *G. Cocceinae*, fed also on *G. Rubra*  
on apple leaves, 250 yrs silk reeled from one

*Attacus* *Mylitta* = *Antheraea perpilia* in the west state  
in India, Bihar, Assam & Bengal feeds on *Rhamnus*, *juglans* & *cocoons* Ann Ent 2. 42) J. CIX  
& very closely allied to *Perpilia* which perhaps is very closely related to *Perpilia* which perhaps may be considered as  
a geographical race. Riley 4. 1868. I hear the same  
relation to *perpilia* as *aranea* does to *cynthia*

6 *Yama mai* silk as bright as steel, the  
maturity with worm but a little less fine  
silkworm occupies the first rank of its  
cotton resembles that of the silkworm species  
"egg" brought from Japan where the worm  
is reared especially with the mulberry &  
cotton in 1862.

Japan  
of Japan in  
Aug 1862

Mr Camille Personal. 1866. Monograph  
of *Yama mai*. In ver a soie 8 v.  
A. Laval a l' Ecole de sericulture.  
Dr Ent Soc. London. 8th Series vol V. pt 5  
Seigneurie de  
see *Cetonia gallica* " for Oct. 1867.  
Figuier 244

86

*Ullucus cyathia* Dcuny. Cat Sep East India house. 407.  
Same? *Cynthia*. Wöhner

*Saturnia* " Westwood  
" *Arnaudi*. Rose.

Native names. *Cerrundy* or *Cerrundi* silk worm  
& *Eri* or *Eria* of Assam

Hab India Shuria

*Phedranis*?

*Ullucus ricini* David  
*Saturnia canula*. Spatz.

(see also below) *A. ricini* which appears to  
be a phytophagous var. is a number of Specimens  
handed over by M. Guérin Mouville of Paris and  
labelled in two lots. *A. cyathia* & *A. ricini* could not  
be distinguished from each other except by the labels

Cat East India house. 407.

Hab India. Hindostan. Native name. *Cerrundy* silk worm. from the word *Cerrundi*  
which is the native name for the *Castor oil* plant

I. CXV, 18, specimen from M. Guérin? *Ricinus pulmon Christi* on which the L feeds.

The oil tubes of the plants eat the Chrysalis. The silk cannot be wound  
off but must be spun like cotton.

*Ullucus* (?) *ricini* the castor oil plant  
Sithürm is a species very nearly akin to  
the *Ullucus* worm perhaps only a variety  
and comes from India. The worm is very  
similar in every respect to that of the *Ullucus*  
river. 500.

Andreae Ann. Nat. p. 331. Hatch Po Ent. 1. 15. p. 58.

Buck Guide 996 see also Ann Nat. Vol. 2. p. 311

*amis*  
*cynthia* *Moth name*

*Samice (Hab.) cynthia* Hrb. *G. 1813.* 1 *U. S. Ag. vol. 20 1861. p. 81*  
*attacus cynthia* Drury. *W. & L. 24 May. 24 p. 381* } *" " " 24 1865. pp. 75. 288*  
*arrindii* *Silkworm of Nest 2. p. 381 +* *" " " 1867. p. 363*  
*Insect* *of Fitch & Myers See 1865* *Baly 4th Rep. 112 -*  
*eggs 200 to 250. pupa (or mo)*  
*About 5 days after hatching up*  
*Chrysalis remaining does not hatch*  
*out into moth until the 2d year*  
*2 broods) can be produced yearly*

native of China but imported for its silk producing qualities into the U.S.  
 It was acclimated in Philadelphia in 1864 several having been taken in that year from cocoons hanging in a wild state on the *Celastrus* trees in the streets. The parent moths having escaped from confinement & deposited their eggs on the first *Celastrus* they came to. These caterpillars were very readily raised in confinement in large boxes covered with grass in Washington D.C. but many of the chrysalides of the first brood did not hatch out into moths the same season but remained in the chrysalis state until the following spring about 2 to 3 fourths of the chrysalides came out as moths in from 10 to 16 days & deposited the eggs for a second brood the rest did not hatch until the following season. Mr. Abbott of Brooklyn 1864 states that 75 to 80 per cent. of his cocoons hatched the same season. Mr. Morris of Baltimore in the contrary only succeeded in raising 10 per cent. of moths the same occasion from his cocoons. *U. S. C. & G. p. 21* *fig. 4. from eggs imported from France. Inspe 46* *1865. Ma.*

Food plant *Celastrus* (Cavil or bean?)

*Rep. Board of Health N. Y.*  
*Marie & Jumperel in (in)*  
*for its silk & acclimated*

translation of a Japanese work  
it is said to thrive well  
in Q. quebec serratus Thunb.  
esp. solely on leaves of Carlton oil plant

*- Offic Rep. Ag. Morris 1860.*  
*That 1879 became wild in*  
*St. Louis Phil. Chicago &*  
*U. S. vol. 2. 246*  
*extensive experiments Sen*  
*66. stated that its cocoon*  
*gave some of our native*  
*fat 2. 247*

*C. plant. Laburnum*  
*such. spirale lvs,*  
*inflorescences we are told,*  
*11. 816*

*queer. 247.*

*For the north of China*  
*1858 by Amador Santoni*  
*Memorial by M. W.*  
*& of Paris*

*is a sort of flax silk*  
*the 13 more*  
*in an asbestos thread*  
*made de Cornelian &*

*etc. in I. Malacca et son*  
*Prov. Paris*  
*Educational des arts et*  
*sci. 12 Me Paris 1860.*  
*in an. 3d series vol 5 p. 2*

*Attacus cynthis* Drury. Cat Sp East India house. 407.

*Samia cynthis* Hubner

*Saturnia* " Westwood

" Arnundi. Royle.

Native names *Uvarundi* or *Urrundi* silk worm

*Ere* or *Enia* at Assam

that India

*Philosamia?*

*Attacus ricini*

*Saturnia luna*

that India. H.

I. CXV, 1

The t.  
off 1

*Attacus* (?) *ri*  
Silkworm  
the Atlantic  
and carib.  
similar in

*Attacus*. *ricini*

*Cyathura*

feeds upon *Lethrinus* chickory mallow & teasel Riley 4<sup>th</sup> Rep. 112

hybrids between *A. cyathura* & *ricini* are quite numerous. I have  
differences between the two forms. Egg of *cyathura* is covered with  
dark particles that of *ricini* is uniform. All grown L of  
*cyathura* is emerald green with dark pockles & black spots where  
that of *ricini* is pale green & lacks the spots. The cocoon of  
*cyathura* is larger more compact & a pale grey. - *Cyathura*  
produces but two or at the most 3 broods annually whilst *ricini*  
produces 5 or 6. annually the moth of *cyathura* has separated white  
tufts on the abdomen while *ricini* has them united in parallel bands  
but these characters cannot be relied on as they connect by  
variations in *Cyathura* the many bands across the wing, is broader  
than in *ricini* in *Cyathura* the crescent is yellow beneath  
the yellow being bordered with yellow arrow in *ricini* the  
white surrounds the yellow like the crescent is generally  
smaller. Riley. 4<sup>th</sup> Rep. 113.

*Attacus Samia guerinii*. Riley 4<sup>th</sup> Rep. 112.

most probably a var of one of the above *A. cyathura* or *ricini*

*Attacus*? C.XII/2 what is it

*Anthonia Am. Nat.* p. 331. *Walch Po Ent.* 1. 13. v. 8.

*Pack Guide* 976 see also *Am Nat.* Vol. 2. p. 311

Samius

*Cynthia* *Moth's name*

*Tamice* (*Cibis*) *cynthia* Hub. *G. H. E. B.* 1. Ulm Ag. Bol. 20 1861. p. 81  
*Attacus cynthia* Schub. *Wolc.* 2d Ver. 2. p. 381 " " 24 1865. p. 75. 288  
*arvindi* Schubert of *Nat.* 2. p. 381 + " " 1867. p. 363  
*of India* *St. 1445* *See 1858* *Riley* 4th Rep. 112 -  
*as 16. p. 361*

Insect native of China but imported for its silk producing qualities into the US it was acclimated in Philadelphia in 1864 several having been taken in that year from cocoons hanging in a wild state on the *Ailanthus* trees in the streets the parent moths having escaped from confinement & deposited their eggs on the first *Ailanthus* they came to. These caterpillars were very readily raised in confinement in large boxes covered with gauze in Washington D.C. but many of the chrysalides of the first brood did not hatch out into moths the same season but remained in the chrysalis state until the following spring about 2 to 3 fourths of the chrysalides came out as moths in from 10 to 16 days & deposited the eggs for a second brood the rest did not hatch until the following season. Mr. Chastell of Brooklyn 94 states that 75 to 80 percent of his cocoons hatched the same season. Mr. Morris of Baltimore in the contrary only succeeded in raising 10 per cent of moths the same season from his cocoons. *Sp. Co. p. 21* 1864. fm eggs imported from France. *Inst. p. 46* 1865. *See 1858* *See 1867* *See 1868* *See 1869* *See 1870* *See 1871* *See 1872* *See 1873* *See 1874* *See 1875* *See 1876* *See 1877* *See 1878* *See 1879* *See 1880* *See 1881* *See 1882* *See 1883* *See 1884* *See 1885* *See 1886* *See 1887* *See 1888* *See 1889* *See 1890* *See 1891* *See 1892* *See 1893* *See 1894* *See 1895* *See 1896* *See 1897* *See 1898* *See 1899* *See 1900* *See 1901* *See 1902* *See 1903* *See 1904* *See 1905* *See 1906* *See 1907* *See 1908* *See 1909* *See 1910* *See 1911* *See 1912* *See 1913* *See 1914* *See 1915* *See 1916* *See 1917* *See 1918* *See 1919* *See 1920* *See 1921* *See 1922* *See 1923* *See 1924* *See 1925* *See 1926* *See 1927* *See 1928* *See 1929* *See 1930* *See 1931* *See 1932* *See 1933* *See 1934* *See 1935* *See 1936* *See 1937* *See 1938* *See 1939* *See 1940* *See 1941* *See 1942* *See 1943* *See 1944* *See 1945* *See 1946* *See 1947* *See 1948* *See 1949* *See 1950* *See 1951* *See 1952* *See 1953* *See 1954* *See 1955* *See 1956* *See 1957* *See 1958* *See 1959* *See 1960* *See 1961* *See 1962* *See 1963* *See 1964* *See 1965* *See 1966* *See 1967* *See 1968* *See 1969* *See 1970* *See 1971* *See 1972* *See 1973* *See 1974* *See 1975* *See 1976* *See 1977* *See 1978* *See 1979* *See 1980* *See 1981* *See 1982* *See 1983* *See 1984* *See 1985* *See 1986* *See 1987* *See 1988* *See 1989* *See 1990* *See 1991* *See 1992* *See 1993* *See 1994* *See 1995* *See 1996* *See 1997* *See 1998* *See 1999* *See 2000* *See 2001* *See 2002* *See 2003* *See 2004* *See 2005* *See 2006* *See 2007* *See 2008* *See 2009* *See 2010* *See 2011* *See 2012* *See 2013* *See 2014* *See 2015* *See 2016* *See 2017* *See 2018* *See 2019* *See 2020* *See 2021* *See 2022* *See 2023* *See 2024* *See 2025* *See 2026* *See 2027* *See 2028* *See 2029* *See 2030* *See 2031* *See 2032* *See 2033* *See 2034* *See 2035* *See 2036* *See 2037* *See 2038* *See 2039* *See 2040* *See 2041* *See 2042* *See 2043* *See 2044* *See 2045* *See 2046* *See 2047* *See 2048* *See 2049* *See 2050* *See 2051* *See 2052* *See 2053* *See 2054* *See 2055* *See 2056* *See 2057* *See 2058* *See 2059* *See 2060* *See 2061* *See 2062* *See 2063* *See 2064* *See 2065* *See 2066* *See 2067* *See 2068* *See 2069* *See 2070* *See 2071* *See 2072* *See 2073* *See 2074* *See 2075* *See 2076* *See 2077* *See 2078* *See 2079* *See 2080* *See 2081* *See 2082* *See 2083* *See 2084* *See 2085* *See 2086* *See 2087* *See 2088* *See 2089* *See 2090* *See 2091* *See 2092* *See 2093* *See 2094* *See 2095* *See 2096* *See 2097* *See 2098* *See 2099* *See 2100* *See 2101* *See 2102* *See 2103* *See 2104* *See 2105* *See 2106* *See 2107* *See 2108* *See 2109* *See 2110* *See 2111* *See 2112* *See 2113* *See 2114* *See 2115* *See 2116* *See 2117* *See 2118* *See 2119* *See 2120* *See 2121* *See 2122* *See 2123* *See 2124* *See 2125* *See 2126* *See 2127* *See 2128* *See 2129* *See 2130* *See 2131* *See 2132* *See 2133* *See 2134* *See 2135* *See 2136* *See 2137* *See 2138* *See 2139* *See 2140* *See 2141* *See 2142* *See 2143* *See 2144* *See 2145* *See 2146* *See 2147* *See 2148* *See 2149* *See 2150* *See 2151* *See 2152* *See 2153* *See 2154* *See 2155* *See 2156* *See 2157* *See 2158* *See 2159* *See 2160* *See 2161* *See 2162* *See 2163* *See 2164* *See 2165* *See 2166* *See 2167* *See 2168* *See 2169* *See 2170* *See 2171* *See 2172* *See 2173* *See 2174* *See 2175* *See 2176* *See 2177* *See 2178* *See 2179* *See 2180* *See 2181* *See 2182* *See 2183* *See 2184* *See 2185* *See 2186* *See 2187* *See 2188* *See 2189* *See 2190* *See 2191* *See 2192* *See 2193* *See 2194* *See 2195* *See 2196* *See 2197* *See 2198* *See 2199* *See 2200* *See 2201* *See 2202* *See 2203* *See 2204* *See 2205* *See 2206* *See 2207* *See 2208* *See 2209* *See 2210* *See 2211* *See 2212* *See 2213* *See 2214* *See 2215* *See 2216* *See 2217* *See 2218* *See 2219* *See 2220* *See 2221* *See 2222* *See 2223* *See 2224* *See 2225* *See 2226* *See 2227* *See 2228* *See 2229* *See 2230* *See 2231* *See 2232* *See 2233* *See 2234* *See 2235* *See 2236* *See 2237* *See 2238* *See 2239* *See 2240* *See 2241* *See 2242* *See 2243* *See 2244* *See 2245* *See 2246* *See 2247* *See 2248* *See 2249* *See 2250* *See 2251* *See 2252* *See 2253* *See 2254* *See 2255* *See 2256* *See 2257* *See 2258* *See 2259* *See 2260* *See 2261* *See 2262* *See 2263* *See 2264* *See 2265* *See 2266* *See 2267* *See 2268* *See 2269* *See 2270* *See 2271* *See 2272* *See 2273* *See 2274* *See 2275* *See 2276* *See 2277* *See 2278* *See 2279* *See 2280* *See 2281* *See 2282* *See 2283* *See 2284* *See 2285* *See 2286* *See 2287* *See 2288* *See 2289* *See 2290* *See 2291* *See 2292* *See 2293* *See 2294* *See 2295* *See 2296* *See 2297* *See 2298* *See 2299* *See 2300* *See 2301* *See 2302* *See 2303* *See 2304* *See 2305* *See 2306* *See 2307* *See 2308* *See 2309* *See 2310* *See 2311* *See 2312* *See 2313* *See 2314* *See 2315* *See 2316* *See 2317* *See 2318* *See 2319* *See 2320* *See 2321* *See 2322* *See 2323* *See 2324* *See 2325* *See 2326* *See 2327* *See 2328* *See 2329* *See 2330* *See 2331* *See 2332* *See 2333* *See 2334* *See 2335* *See 2336* *See 2337* *See 2338* *See 2339* *See 2340* *See 2341* *See 2342* *See 2343* *See 2344* *See 2345* *See 2346* *See 2347* *See 2348* *See 2349* *See 2350* *See 2351* *See 2352* *See 2353* *See 2354* *See 2355* *See 2356* *See 2357* *See 2358* *See 2359* *See 2360* *See 2361* *See 2362* *See 2363* *See 2364* *See 2365* *See 2366* *See 2367* *See 2368* *See 2369* *See 2370* *See 2371* *See 2372* *See 2373* *See 2374* *See 2375* *See 2376* *See 2377* *See 2378* *See 2379* *See 2380* *See 2381* *See 2382* *See 2383* *See 2384* *See 2385* *See 2386* *See 2387* *See 2388* *See 2389* *See 2390* *See 2391* *See 2392* *See 2393* *See 2394* *See 2395* *See 2396* *See 2397* *See 2398* *See 2399* *See 2400* *See 2401* *See 2402* *See 2403* *See 2404* *See 2405* *See 2406* *See 2407* *See 2408* *See 2409* *See 2410* *See 2411* *See 2412* *See 2413* *See 2414* *See 2415* *See 2416* *See 2417* *See 2418* *See 2419* *See 2420* *See 2421* *See 2422* *See 2423* *See 2424* *See 2425* *See 2426* *See 2427* *See 2428* *See 2429* *See 2430* *See 2431* *See 2432* *See 2433* *See 2434* *See 2435* *See 2436* *See 2437* *See 2438* *See 2439* *See 2440* *See 2441* *See 2442* *See 2443* *See 2444* *See 2445* *See 2446* *See 2447* *See 2448* *See 2449* *See 2450* *See 2451* *See 2452* *See 2453* *See 2454* *See 2455* *See 2456* *See 2457* *See 2458* *See 2459* *See 2460* *See 2461* *See 2462* *See 2463* *See 2464* *See 2465* *See 2466* *See 2467* *See 2468* *See 2469* *See 2470* *See 2471* *See 2472* *See 2473* *See 2474* *See 2475* *See 2476* *See 2477* *See 2478* *See 2479* *See 2480* *See 2481* *See 2482* *See 2483* *See 2484* *See 2485* *See 2486* *See 2487* *See 2488* *See 2489* *See 2490* *See 2491* *See 2492* *See 2493* *See 2494* *See 2495* *See 2496* *See 2497* *See 2498* *See 2499* *See 2500* *See 2501* *See 2502* *See 2503* *See 2504* *See 2505* *See 2506* *See 2507* *See 2508* *See 2509* *See 2510* *See 2511* *See 2512* *See 2513* *See 2514* *See 2515* *See 2516* *See 2517* *See 2518* *See 2519* *See 2520* *See 2521* *See 2522* *See 2523* *See 2524* *See 2525* *See 2526* *See 2527* *See 2528* *See 2529* *See 2530* *See 2531* *See 2532* *See 2533* *See 2534* *See 2535* *See 2536* *See 2537* *See 2538* *See 2539* *See 2540* *See 2541* *See 2542* *See 2543* *See 2544* *See 2545* *See 2546* *See 2547* *See 2548* *See 2549* *See 2550* *See 2551* *See 2552* *See 2553* *See 2554* *See 2555* *See 2556* *See 2557* *See 2558* *See 2559* *See 2560* *See 2561* *See 2562* *See 2563* *See 2564* *See 2565* *See 2566* *See 2567* *See 2568* *See 2569* *See 2570* *See 2571* *See 2572* *See 2573* *See 2574* *See 2575* *See 2576* *See 2577* *See 2578* *See 2579* *See 2580* *See 2581* *See 2582* *See 2583* *See 2584* *See 2585* *See 2586* *See 2587* *See 2588* *See 2589* *See 2590* *See 2591* *See 2592* *See 2593* *See 2594* *See 2595* *See 2596* *See 2597* *See 2598* *See 2599* *See 2600* *See 2601* *See 2602* *See 2603* *See 2604* *See 2605* *See 2606* *See 2607* *See 2608* *See 2609* *See 2610* *See 2611* *See 2612* *See 2613* *See 2614* *See 2615* *See 2616* *See 2617* *See 2618* *See 2619* *See 2620* *See 2621* *See 2622* *See 2623* *See 2624* *See 2625* *See 2626* *See 2627* *See 2628* *See 2629* *See 2630* *See 2631* *See 2632* *See 2633* *See 2634* *See 2635* *See 2636* *See 2637* *See 2638* *See 2639* *See 2640* *See 2641* *See 2642* *See 2643* *See 2644* *See 2645* *See 2646* *See 2647* *See 2648* *See 2649* *See 2650* *See 2651* *See 2652* *See 2653* *See 2654* *See 2655* *See 2656* *See 2657* *See 2658* *See 2659* *See 2660* *See 2661* *See 2662* *See 2663* *See 2664* *See 2665* *See 2666* *See 2667* *See 2668* *See 2669* *See 2670* *See 2671* *See 2672* *See 2673* *See 2674* *See 2675* *See 2676* *See 2677* *See 2678* *See 2679* *See 2680* *See 2681* *See 2682* *See 2683* *See 2684* *See 2685* *See 2686* *See 2687* *See 2688* *See 2689* *See 2690* *See 2691* *See 2692* *See 2693* *See 2694* *See 2695* *See 2696* *See 2697* *See 2698* *See 2699* *See 2700* *See 2701* *See 2702* *See 2703* *See 2704* *See 2705* *See 2706* *See 2707* *See 2708* *See 2709* *See 2710* *See 2711* *See 2712* *See 2713* *See 2714* *See 2715* *See 2716* *See 2717* *See 2718* *See 2719* *See 2720* *See 2721* *See 2722* *See 2723* *See 2724* *See 2725* *See 2726* *See 2727* *See 2728* *See 2729* *See 2730* *See 2731* *See 2732* *See 2733* *See 2734* *See 2735* *See 2736* *See 2737* *See 2738* *See 2739* *See 2740* *See 2741* *See 2742* *See 2743* *See 2744* *See 2745* *See 2746* *See 2747* *See 2748* *See 2749* *See 2750* *See 2751* *See 2752* *See 2753* *See 2754* *See 2755* *See 2756* *See 2757* *See 2758* *See 2759* *See 2760* *See 2761* *See 2762* *See 2763* *See 2764* *See 2765* *See 2766* *See 2767* *See 2768* *See 2769* *See 2770* *See 2771* *See 2772* *See 2773* *See 2774* *See 2775* *See 2776* *See 2777* *See 2778* *See 2779* *See 2780* *See 2781* *See 2782* *See 2783* *See 2784* *See 2785* *See 2786* *See 2787* *See 2788* *See 2789* *See 2790* *See 2791* *See 2792* *See 2793* *See 2794* *See 2795* *See 2796* *See 2797* *See 2798* *See 2799* *See 2800* *See 2801* *See 2802* *See 2803* *See 2804* *See 2805* *See 2806* *See 2807* *See 2808* *See 2809* *See 2810* *See 2811* *See 2812* *See 2813* *See 2814* *See 2815* *See 2816* *See 2817* *See 2818* *See 2819* *See 2820* *See 2821* *See 2822* *See 2823* *See 2824* *See 2825* *See 2826* *See 2827* *See 2*





*Polyommata cecropia* Riley 4<sup>th</sup> Rep. 103  
*Cecropia* the City of Athens old name.

The conclusion I would draw from my materials is, that *Columbia* cannot, at least until the contrary is proved by evidence, be considered as a variety or form of *Cecropia*. With regard to the second eventuality, a hybrid form, of course it is as yet merely a conjecture. Still, as I feel myself bound to frankly express my opinion, I should say I believe it possible that *Columbia* may be a hybrid, perhaps of *Cecropia* and *Promethea*, and I will state what I believe to be in favor and disfavor of this conjecture.

Concerning another new species, *Gloveri*, I cannot help thinking it to be identical with *Columbia*, to judge from the figure and description, as I have not seen the specimens. It is fair to state that Mr. Strecker, on seeing our specimens of *Columbia*, declared them to be different from his *Gloveri*.



24

*Attacus* (Linnaeus) *Atlas* Linnaeus

Cat Lep. India house. p 405: L. hxx.

*Saturnia silhetica* Helfer

*Saturnia atlas* Donovani. Des of China p 76.

The L eat their own skins after casting them. The cocoon is formed by bending a large leaf & enclosing itself in a mesh under it. Oct. 12.  
J. 22 June following.

✓ *Masam Mercurius mentinus* a var in Surinam (?) of which she says  
the thread of which this cocoon is composed is so strong that it has been  
supposed it would make good silk. (see note in Doublon LXXXV col 4<sup>th</sup> J.CX.)  
From comparison this is an <sup>good plant.</sup> *Phyllanthus Emblica* (Tarpule)  
entirely different insect <sup>LXXXV col 4<sup>th</sup></sup> J.CX.  
' will feed also on Plum and peach but thrives best  
on Apple." Miss notes of Lady Isabella Rose Gilbert in 1825.

*Attacus Edwardsi* (White) Cat Lep. East India house 406

Species distinguished from *A. atlas* by its intensely dark color &c  
see Cat Lep. East Ind. Hawe. 406

*Attacus*. (*B. Faucheriana*) *Baumhoniae* Guerin Menouville

Hab. Senegal.

CXI

Specimen given by  
M. Guerin Menouville Paris

Food plant  
*Baumhonia*.

*Bombyx*. (*Faucheriana*) *Baumhoniae* - Guerin menouville

This for Senegal. - Sp presented by  
Mons. Guerin Menouville. It was to  
be a silk producing insect. Rep. Dep Ag 1866. 38  
In new Attacus

*Saturnia* *Baumhonia*. Guerin Menouville or *Faucheriana*  
Senegal each cocoon containing 688 milligrammes of  
silk whilst the common silk worm contains only  
290. & it is proposed to introduce it into Algiers  
Scien. Gessell. 1865 p 87.

californian

- Platysamia californica* (Grote) GGR. 13. (Samborn auth) Am Nat 1. 557.  
*Saturnia euryale* + (no desc) Bois  
*Saturnia euronota* + (no desc) Behr  
*Samia cynthia* + (no desc) Pack PESR 3. 380  
*Saturnia* cf. distinct from Ntl 1. 557 from collection of Mr. Mill of Phil.  
 Female lays 200 to 250 eggs. The caterpillar requires generally from 2 to 2½ months before forming its cocoon from plant (Cecropia) Am Nat 1. 557  
 Hub Calif Pack. months before forming its cocoon from plant (Cecropia) Am Nat 1. 557  
 Platysamia Euryale This insect is cultivated in Calif for its silk though the cultivation of the Cossice Silk worm (B. mori) is carried on there largely Pack Guide 298

*Attacus aurata*. Cramer sp. Pack PESR 3. 381. Pack guide 297

" I have received from Mr. Uhler it was taken in Texas & the spec" was in too poor condition to serve for description it evidently forms the type of a new genus & whether it is the true "Aurata" figured by Cramer remains to be proved. (Pack. PESR 3. 381.)

Hab. Cent & South America Brazil (Pack guide) too delicate for a northern Clematis (Pack.)

*Attacus didyma* Beauv. Ins Leipzig 1. Amer. Pl. 20. Mar Syn. 228. Pack PESR 381.

" It is doubtful whether any sp. of *Attacus* (of Hub.) exists in Amer. Pack.

*Saturnia mylitta* name *Saturnia galathaea* Clem B. Acad nat Sc Paris 1860 p. 156. Pack PESR 3. 383. GGR 13.  
 & Mor Syn. p. 222. See description

This insect was taken by Dr. Arthur Schott of Georgetown H. on the Rio Bravo del Norte. in Western Texas it was flying in the daytime among several specimens of *H. maca*. which were very numerous in that neighborhood - This was the only one of its species seen by the principal trees in the neighborhood were Cotton Wood. (note by Dr. Schott.)

Hab. Texas. (Dr. Schott.) Food plant prob Cottonwood.

*Attacus perneyi*. - allied to *Attacus mylitta* (Antheraea Pernyi) <sup>in</sup> 9.00 inches long 5.50 mm. max in thorax & perhaps only a geographical race. Riley 1st Rep. 138. & bears the same relation to *A. mylitta* as - *A. cynthia* & *Cecropia* <sup>in</sup> *Eacles theryi* <sup>in</sup> *A. perneyi*

*Attacus mylitta* or *Antheraea*  
 or *Mylitta* see *Antheraea*

*A. pernyi*, silk beautiful, few strong & brilliant. (figured)

Cocoons & mostly first exhibited at the Universal exhibition 1855. Found by M. Jordon of Lyons from Chinese cecropus Fair 146 food Oak

*Antheraea* *Pernyi*. Guerin menville. Revue et Mag de Zool 1855. 997 pl 6. fig 1 " is a species distinct from any enumerated" in Cal dep East India house 386 L. J. Pl 104. 105. 106. in Queen's model

(*Attacus pernyi* Pack guide 296 Wm Ent 2. 41.  
 Hab Manchuria. (US Akhurst) feeds on Oak that has been raised in France

Requires taken from Specimens raised July 1<sup>st</sup> in Brooklyn Long Island, by Mr. J. Akhurst. & most probably the first raised in the U.S. Ins S. pl. 107. Ins set 104. Ins pl. 106. 9

*Comuleca maura* Protophyes of *S. dentata* from 23° ann.  
eggs deposited in a felt  
encircling twigs of Oak  
→ parasite. *Comuleca fugitiva* Say which is also  
parasite in *Erythrina* stigma *Sesbania* Lat 15°

*Comuleca maura*. Caterpillar destroyed by  
Anna modesta Riley 5th Rep 1873 p 73

*Gloveria (Pack) arizonensis* Pack.

One Specimen only taken by Dr Palmer Ins pl 103  
Bonsu Arizona & Mexico 1869. fig 7

\* Placed here only provisionally - as it is no Othello.



*Hemileuca maia* Drury Riley 5th Rept. 1873, p. 127.

Bush moth or Deer fly  
flies at mid day in the autumn where the deer run  
hence the name

Eggs deposited in naked belts from 100 to 200

I appear about <sup>mid</sup> April sometimes even before the leaves of the  
oak are ready for them they are gregarious & follow  
one another mostly in single file after the last mouth they  
separate & scatter they pass through 5 months & usually  
attain their full size about end of June. the cocoon has  
of the species is not owing to any noxious fluid which they  
get but belongs to the substance of which the species are for  
as a dead larva or a cast off skin still retains the  
irritating power

purple pointed nude ground in a simple oval cell  
fin. appears about fore part of Oct. the males first

destroyed by *Arima modesta* Dallas. *Semina*  
*fugitiva*, Say, a small Schneidener fly, an undetermined  
mimicary and *Tachina anonyma*, (Riley)  
feed plants Oak Huckle Blackberry

*Hemileuca maia* P.

eggs deposited in  
succulent twigs of  
plants. Larvae  
parasitic

*Hemileuca maia*

Arma modesta

*Glosseria (Pack) anthonensis* Pack.

One Specimen only taken by Dr. Palme Ins pl 103  
Border Aurora Mexico 1869. fig 7

\* Placed here only provisionally - as it is no attain.

*Ceratocampinae*  
*Hemileucini*

you half 12 hours }  
white? }  
maia prop name

- Hemileuca* (Walker) *maia* (Walker) *Gyr* 13. *L.*  
*Bombyx* *maia* (Linnaeus)  
*Bombyx prescupra* Lab.  
*Eutricha* Pack, *maia* Pack *PESP* 3. 383. *Pack Guido* 299  
*Saturnia* " Mor. 21. *Mor Synt* 221. *Harr* 398.  
*Phalaena prescupra* *SyA* Pl 50.

*Black Emperor* *SyA*. Duck or deer to Ma. { so called from the perfect smooth appearing in the autumn about the time the deer run

*Sar.* found very early in the spring (Mar) when young feed in company but when old they disperse & become solitary. The spines on this caterpillar are very apt to pierce the skin when inadvertently handled & sting very severely. - found full grown in July (Md) on Oak.

*Droso* formed underground in a thin gumming cocoon. L. pl 5  
Insect appears in the autumn (Md. No. 1) the northern specimens are much lighter in color & rather smaller than those bred in Md. Pg 11. Md Nov

*Hab. Maine N.H. southward Pack Food plant Oak Wild Cherry?*  
Geo. (S.A.) Md Va (S.G.) Scrub Willow *Salix hamamelis* (Paley) Ins pl 67  
Sting caused by a poison secreted by the L. *Scutellum* Pg 28. Conn. Pg. 68. Prof. Berney

*Hemileuca grotei* (Hoffmann) *Gyr* 13. *Gyr*. *Tr AES* Pl 21 fig 60.  
Grotei *Hemileuca* p. 142. *Tr AES* Pl 142

*Hab. Texas. (Friedrich)* Sp more slender than *Maia* & c. see *Gyr*. Pl 49. Pg 11. fm *Gyr*

*Hemileuca* *Tene*. Pack. 2 or 3 sp collected by Dr Paloma 1869. Ins pl 103. Pg 103. Prof. Berney

*Pseudoharis* (*Gyr*) *Hera*. *Gyr* 13.

*Hemileuca* *Hera*. Pack *PESP* 3. 383.

*Agleia* — " Mor. 21.

*Saturnia* — " Mor Synt 21. Harris 398.

Ins pl. 59  
fig 8. coll of Dr Morris

3 Ins pl. 99  
fig 9. said to be from Calif  
presented by Prof. Baird  
Smithsonian Inst

*Hab. U.S. (Mor)* Southern St (Mor. Synt) Rky Mtns (Pack)

note. figured also by Audubon. Birds of America pl 354. (? Calif.)  
by Turner by Mr Nutall near the Rky Mtns. Har.

*Pseudoharis* *eglantaria* *Gyr* 13.

*Saturnia* " *Baird*. Mor Synt 3. 222

*Hemileuca* " *Wade* Pack *PESP* 3. 383.  
Pl 2. 74 }

*Pseudoharis* *pica* *Gyr*. Gyr 13.

*Hemileuca* " *Wade* Pack *PESP* 3. 222.

*Saturnia* " *Mor Synt* 222.

nearly allied to *P. Eglantaria* which it resembles in  
size & ornamentation *Gyr* Tr *AES* 2. 74.

*Coloradia* <sup>1869</sup> *Pandora* *CABlate* *PESP* 2. 279. *Gyr* *PESP* 3. 92  
Pl. 7

1 specimen Ent Soc. Phil.

Ins pl. 81  
fig 14. fm Blakie's fig

*Walt. Rky peak*.

Wings grayish brown with a few white veins on the fore wings, the hind wings with a few white veins on the outer margin. The fore wings with 2 indistinct fulvous bands, the hind wings with 2 distinct bands, one broad, the other thin, both with a few white veins.

*Ulyssia laia (Sowerby)* Berge p 147 pl 31.  
*Phalaena* " Linn

I CXI

*S.* when young has two thorns on its head. 2 upon the third ray  
and one upon the last ray but one on its body. Feeds on  
Apple, Beech, Birch, Hazel, Linden, Oak, & pear. Berge  
Hab. Eu.

*Saturnia (Schön.) cecigena* Berge 148 pl 31.

Larva unknown feeds on Oak. I CXI  
Hab Dalmatia Bus flies in July  $\frac{3}{3}$  from Berge

*Saturnia canarii* Berge 148.  
*Phalaena pavonia minor*. Linn

Q I CXI  $\frac{2}{5}$  from Berge  
 $\frac{5}{6}$ ,  $\frac{3}{3}$  from nature

Cocoon formed in July or Aug in a parchment like cocoon which  
is brown in color. Surface is flask shaped.

Food plants Alder, Apple, Beech, Bilberry, Blackberry, Cherry, Currant, Hazel, Oak,  
Pear, Plum, Raspberry, Rose, Sloe, Strawberry, Willow

Hab. north as far as Lapland, Eu,

*Saturnia pyri*  
*Baileyx pavonia major*. (Linn)

Berge. 148. pl 31.

*Saturnia (pavonia) major* Linn 251.

more laid on the branches in many L.

Elm pear plum

Hawthorn, Elm, Pear, Plum,

" Cocoon brown of coarse silk of great  
strength "

Q XIX

Q XXII

3 Europa

*Saturnia spinii* Berge. 148. pl 31.  
*Baileyx pavonia media*. (Linn)

I CXI

$\frac{1}{4}$  nature

Cocoon is felt like not flask shaped but more flat roundish and  
whitish brown, internally it has an especially thick fine cocoon.

(Eu) Food plants Apple, Elm, Rose, Sloe.

*Saturnia rubrescens*

Robusta Blanch polystictana Walk

Hab. Valdivia Chile

I. CXII.

$\frac{1}{4}$  nature

Specimen from the Smithsonian Institution.





# Dryocampini

Cecro. (Hüb) imperialis (Hüb) GYR 13. Pack PESP. 3. 381

Bombyx imperialis Bouvy

Bombyx didyma Beauv.

Dryocampus imperialis Mor. 21. Har 1602.

Cecropia " Mor. Syr. 230 Har cat. Ins. Maij. 1835. p. 72.

Phalaena imperatoria S&A. pl. 55.

Lar. young fig. 106  
fig. 28 Sycamore  
July Ma.

Lar. he 9  
fig. 7 Cedar Oct Ma

Lar. pl. 6

fig. 7 Oak Ma Oct

Lar. pl. 8

fig. 8 Pine & Cedar  
Sept. Oct

Great Plane tree Moth (S&A) Imperial moth Harris

Eggs deposited June & July

Larvae attain full size Jun Aug Sept. (have taken one late in Oct. Ma.)  
they vary very much in color some being green whilst others Ins. pl. 50  
are brown or somewhat orange color fig. 10 Ma

Pupa formed underground with no cocoon.

Ins. somewhat difficult to be reared from the Larva in confinement  
appears in July (Geo) have received it from Texas sent by Dr. Lincecum

paratus. Sachar a veluta sp.  
Sax. a. v.

Food plants Oak Pine (Plane) Hickory  
Sycamore Buttonwood

Cab rare Can (Saunders) Mass P&G (Pack)  
Geo. (S&A) Ma Va (LG) Texas (Lincecum)

Am. Ent. 1. 40. & 339, 715

Citheronia Hüb regalis Hub. GYR 13. Pack PESP. 3. 381. Pack guide 299.

\* ♀ Phalaena larvaon. Cram T (error) Pl. 117. figs 13. 46.

♂ " " Stoll F (error)

Young larva. Pl. 92

fig. 16 Sumach Ma July

Bombyx regalis Fabr

Cecro. larvaon - Walk. (error) GYR Pl. A&S 2. 74.

Cenatocampa regalis Mor. Syr. 220 Har. 1835. (Pitch & Ma) See. 1. 2. 3 Walnut Ma

Phalaena regia Syle pl. 61

" " 2. 30.

Lar. not full size Pl. 5

fig. 1. 2. 3 Sycamore

Caterpillar. vni. Hickory horn devil (Ma)

Ins. Royal Persimmon moth (S&A) (Regal walnut moth Har.

Eggs, deposited June & Aug (Ma) (Regal Hickory moth. Fitch.

Lar. rather plentiful (Ma) solitary in habits when old although

dangerous in appearance on account of their size & their formidable  
horn like protuberances are perfectly harmless Aug & Sept (Ma)

Pupa formed underground without cocoon. Sep. (Ma)

Ins. appears the following May or June (Ma) & only one brood yearly.

Food plants Black Walnut Butternut Hickory  
Persimmon Sumach Lilac Am. Ent. 2. 130

Cab. rare Mass (Pack) Geo. (S&A) Ma not uncommon (LG)

Fig. 13 of Citheronia larvaon. Cramer Sp. is distinct from our C. regalis of the U.S.  
See. Grote & Robinson Ann. N.Y. Soc. Nat. Hist. Vol. 8. 1866. & Dr. Am. Ent. Soc. 2. 1866.

Pack guide 299

Citheronia sulphuralis GYR. GYR 13. GYR. PESP. 4. p. 222. & 496 see descrip. of Larva

The larva figured was found by Mr. Hitz Washington

feeding on the Pine in Ma. Sep.

Lar. pl. 4 Fig. 8 Pine Ma Sep.

I discovered at Andover Mass by Mr. J. O' Treat. Pack guide 299

Larva as figured by Abbott in Georgia in his unpublished drawings now in the possession of the Boston Soc. Nat. Hist. Pack

Lab. Mass. (Toburn) Ma. (LG)

Ins. pl. 84

Food plant Pine fig. 19 from an original drawing kindly  
lent by Mr. Taborn May

Pitch Pine Pack

(89)



*Alphes unicolor obscurus*  
Hesperiidae.  
two colors

*Adelocopephala (Basis) bicolor* Grote GVR. 13. Grote PESR 3. 538  
*Synochampa bicolor* Har. 408. Mor 21. Mor Syn. 232. Pack PESR 3. 884 Har Rep. 3<sup>rd</sup> ed. 1862  
 ♂ *Sphingicampa desigma* Walsh p. 1504 Soc Nat Hs 1864 p. 290 PESR 3. 423  
 ♂ *Sphingicampa bicolor* Walsh.  
*Unisita bicolor* Grote PESR 1864 p. 93.

Larva figured from a specimen in alcohol sent by Mr. Walsh.  
 of Illinois & not of the color of the living caterpillar

*Cab illini* (Walsh) North Car. (Harris) Pack. Lar Pupa & Ins. p. 68  
 fig 29. Coll of Mr. Food plant. ? Oak. Walsh Illini

various unguis.  
♂♂ car

pellucida transparent

*Minola (Hub.) pellucida* Gr. GVR 13. Gr. PESR 3. 93. Pack PESR 3. 385

*Phalana pellucida* S. & G. pl. 53.

*Myocampa* " Mor 21. Mor Syn. 232. Har. 407. Fitch 5<sup>th</sup> Rep. 1859. p. 44  
 Fitch & Wigglesw. Soc. 1858 vol 18 p. 825

Transparent winged white spot moth (S. & G.)

Clear wing or pellucid *Myocampa* Har

Olive gray Oak worm (Fitch)

Larva found (Md) on Oak Esp & Oct (July M) Ins p. 64

Pupa formed under ground July 12 & Aug 18. (See) Aug (M)

Ins. Appeared Aug 8<sup>th</sup> & 24<sup>th</sup>. Some perfect insects also came out in May (Geo.)

"Larvae when alarmed hold their anterior end rigidly upward & downward with the horns extending obliquely forward & outward. several usually found near each other on the same limb." Food plant OAK

Hab rare Can (Saunders) May N.Y. (Pack) Geo. (S. & G.) Md Va (S. & G.) Can Bethune (Can Cat 1865)

♂ *pellucida*, L. head rust-yellow body pea green back & sides shaded red. Ventrally mostly bright pale yellowish green & armed with black spines  
 Brs. olive yellow forewings of male purplish brown with a large transparent space in the middle near a small raised white spot. hind wings purplish brown almost transversely in the middle from purplish red. almost transparent in the middle ♂ 1.75 ♀ 2.35.

*Myocampa senatovae* J. L. Leconte 23 Ann Rep. N.Y. Acad. Nat Hist 15  
 → parasite *Liriomyza fujitana* Say Hym

{  $\frac{1}{2} \text{ inch } \times \frac{1}{2} \text{ in. } \times \dots$

Verneuil

*Dryocampa stigma*. J. L. Leconte 23 Ann Rep. N.Y. Acad. Nat Hist  
 → parasite *Liriomyza fujitana* Say Hym

*Dryocampa stigma* Sm. Riley 5th Rep. 1873 p. 141

*Anisota rubricunda*, Fab. Riley 5th Rep. 1873 p. 138

L undergo 4 months

Eggs deposited in clusters of 30. to 40. on the underside  
 of leaves.

in Missouri there are two broods annually. the first  
 caterpillars appearing in June the second in Aug & Sep.

Tow'plant Oak. (auth Riley & Saunders Can)

parasites. *Tachina anonyma* Riley

" { *Tachina (Belosia)* Riley 5th Rep. 160.  
 " { *Tachina (Belosia) fasciata* Say & *Liriomyza fujitana* Say (Sch.)

*Anisota rubricunda* remedy Riley 5th Rep. 1873 p. 141

watch for white eggs before heat of may  
 when the caterpillars are about to leave the tree  
 dig a trench at least a foot deep around the tree  
 into which they fall in.

2.00 ♂ forewings very hairy & pointed at apex, scarcely hairy  
at short hairs below. 2nd legs 87 mm which are  
slender & thread like. color black with 1 narrow ochre  
strip along the back & 2 on each side.  
♀ ochre yellow, faintly tinged with purplish red, crossed  
by a purple brown band behind maxilla, fore wings  
sparkle with black dots - which are in males  
male & smaller & more purple red.

Sect. 1910

*Anisota senatoria* (Hüb.) Gyr 13. Grote PESP 1864, 93. Pack PESP 3. 385.

*Phalaena*. " Sct. pl. 57.

*Dryocampa* " Mar 21. Mor Syn. 231 Har. 406. Fitch 5<sup>th</sup> Rep. 1859. p. 43.

Sch. to N.Y.S. Ag Soc 1858 Vol 18 p. 823. In Ent. 21, 7.

Common White spot Moth (Sylva) Senatorial Dryocampa (Har.)

Yellow stripes Oak worm, Fitch

Eggs deposited in large clusters under leaves at the end  
of a branch.

Larvae social in habits feeding together in companies they  
attain full size in Aug & Sep.

Pupa turned 6 or 8 inches underground & remains in

Insect appears about 2<sup>d</sup> July (Geo.)

Ins. pl. 57

figs 15-18. Md.

Oak exclusively W. th. } Food plant Oak Chinguapin ?

Hab. Canada (Saunders) Mass. (Har.) Md. Va. (G.) Geo. (Sylva) N.Y. (Fitch)  
Can. B.C. (Har.) Can. Ent. 1. 45.

note "this caterpillar was exceedingly abundant & destructive in the Oak woods  
in Md. 1862. Its prickles were stated by Fitch when they penetrate the skin produce a  
see Hymenopt. pl. 5 fig 3. stinging sensation like that of nettles. which man only eats a short  
(Mesoleptus?) time

*Anisota stigma* Hüb. Gyr 13 Pack PESP 3. 385. Grote PESP 3. 93.

*Phalaena*. " Sylva. Pl. 56.

*Dryocampa* " Mar 21. Mor Syn 230 Har. 407 Fitch 5<sup>th</sup> Rep. 1859. 44  
Sch. to N.Y.S. Ag Soc 1858 Vol 18 p. 324

Orange White spot. (Sylva) Spotted winged Dryocampa (Har.) or Thorny Oak worm  
Fitch.

Larvae when young live in companies when older live  
solitary found on Oak. Lep. (Sylva)

Pupa formed underground Lep.

Insect appears June July (Geo.)

Ins. pl. 6

Fig 17 Oak La. Sep.

Ins. pl. 57

Fig 18 Md.

Food plant Oak ?

Hab. Mass (Har.) Can. (Saunders.) N.Y. (Fitch)

Harle. (Saunders Can.)

Md. Va. Fla. (G.) Can. B.C. (Har.) Can. Ent. 1. 45)

virginiana

*Anisota virginiana* Pack. Gyr 13 Pack 1<sup>st</sup> Ed. 3. 385.

*Bombyx virginianus* Linn.

*Anisota polyphemus* Hüb. var.

Hab. Va. (Geo. (Pack))

*Anisota*

*Dryocampa* (Harris) rubricunda Grote. Pack PESP 3. 384 Mar 21. Mor Syn 232. Har. 468. Pack

Bombyx. " " Gal.

*Anisota* " " Grote PESP 3. 93. 1864 & Gyr to A.E.S. 2. p. 76

1868 *Dryocampa* Harris

Can. Ent. 2. 76. des. lar. 40

Larvae when young feed in company when old solitary taken July & Sep.

Pupa formed underground

Lar. pl. 6

Fig 18 Silver maple July

newspaper bands longitudinally along sides below charae change to

darkish tan and silvery of body

are 2 broods annually

Ins. pl. 57

Fig 19. Md. July. Can.

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body

are 2 broods annually

newspaper bands dark tan and silvery of body



Lachnoides Hub. mothers have very woolly stout babies small wavy proctored antennae which the larvae are long cylindrical & very scarcely tuberculated. Larva of very dense cocoon Pack 300 35  
from the woolly appearance of the lar. Lachnoides Gyr. list (Lachnoides Pack) note " on restoring the name Lachnoides of Hübner I apply it to a group including all three of this "strip" indicated above & which when taken collectively correspond to the Bombycidae of the authors who consider that Bombyx more was the typical genus." Pack PESR. 3. 385.

yellow belly  
var vs throat  
american

Gastropacha (Ochsen) americana (Har.) Gyr. 14. Pack PESR. 3. 386. Mor. Syn. 233. Har. 37.  
Gastropacha occidentalis? (Walker) (Gyr. 14. No. 275) Gyr. 14. No. 275  
? Phaluna ilicifolia Sylt. pl. 37 (error)

the fore part having 2 bright

scarlet velvety bands

Small Lappet Moth (Sylt.) American Lappet moth (Har.) Lan. 9  
of flattened body gray, wings brown on each side with suff. of black & gray hairs & on Fig. 18. Syra fig  
Larva remains quiet during the day but feeds at night. May Inspe. 52  
Pupa formed in a brown web or cocoon among leaves & the pupa Fig. 3. Md.

lar. flattened & appear like

as a swelling of the bark skin Ins. appears the following spring. in May (June) Inspe. 107

at first with gray hair tufts & gray hairs on Fig. 7 coll. of  
the fore part are bright scales  
velvety bands. - 0.50

Ins. having reddish brown  
inner angle of fore wing notches  
hole about from scratch to tip  
After edges with irregular  
dark brown lines. 1.50

\* note " whether P. ilicifolia of Sylt. is identical with either Gamucana or ferruginea  
can only be determined when specimens are received from the Southern States (Pack)

homogeneous or  
brown color

Gastropacha queraria (Mor. Cat. 23) Phalaena queraria. Sylt. pl. 103 see syn. darsys P. 130

Gastropacha ferruginea Pack. Gyr. 14. Pack PESR. 3. 386.

Hab. Mich. (Pack)

" Smaller than americana & wants the concreous bands on the wings which are throughout rusty brown." (Pack)

rotating a ball.

velveta

prop. name of

a female

7 miles

below

Black & white Tussock moth (Sylt.) Velleda Tussock moth Har.

Black & white

Tussock

moth

Velveta

Velveta</

Parthenogenesis in *Tachysphex* - that  
 out of all 5888 eggs laid by unparasitized  
 Sib. mps many proved to be unfertilized  
 stages show that they were capable of self-fertilization  
 but only 2 out of the whole number produced  
 caterpillars. Dananeus Annual plants  
 under domestication 2 436

? *Lanice* Lar. dull amber brown extremities ash gray. Lappets black at tip. Hind legs under body naked pale bluish green. 1.8.  
The main body somewhat convex with Onawa scales veins robust whitish with irregular dark spots antennae but  
female, very translucent milk white covered by 4 faint quadrangular wavy bands  
of pale dusky. antennae also somewhat hairy. 1.67

*Lanice*  
of the larch.

*Tolype lanice* (Pack) Gyr 14. Pack P&SP 3. 387.  
*Planosa* " Fitch 2d Rep. 1856. 262. pl 2 figs 5-6. & N.Y.Sag Soc 1855. Vol 15. p 484  
*Gastropacha* " Mor. Syn. 234.

Larch cheater or Tamarack Lappet moth. Fitch Ins pe 52  
Larv. ash gray. flattens & closely resembles the bark. eats the foliage June Pg 7 Md  
(from pupa Sept. (N.Hamp.)  
Cocoon of rough texture with a roughish surface very similar in appearance to hole gray wrapping  
pupin attached onto tree  
Hab. Mass. N.H. (Pack) N.Y. (Fitch.) Md. (G.) Food Plants American larch or  
Can rare (Saunders) Can. Benthm Cat Eu 1.45. Tamarack  
Parasite Ins at rest. pe 99. Pg 6 Md  
*Polyga deon planosa* (Fitch 269)

humble a rain  
sing a red or furrow.

*Artace* (Walk.) punctistriga (Walk.) { Gyr 14. Mor 22. Mor. Syn 237.  
& Gyr 21 A&S. 2. 75

Cocoons frequently found fastened to a stalk (Md) Oct.

coc. Ins. pl 64  
Pg 29. Md. Oct.

Hab. Geo. (Mor.) Md. (G.)

Ins at rest. pe 99.  
Pg 6. Md

*Bombyx mori*. Har 380 Pack Guide 295. Prae Est 1/13.

*Sericaria* " of French exposition & Latr  
Common SILK worm. of commerce.  
or Mulberry Bombyx. Har.

Ind native of China but domesticated in the U.S.  
the Larva when young will feed on Lettuce & when fed  
exclusively on the leaves of the Citrus orange for the sake of  
an experiment not only proved very healthy but produced  
a very fine & strong silk in Washington D.C.  
Mr. Gallager of Washington has produced an extra  
fine & strong silk from some he fed in the open air  
upon mulberry trees planted in his garden & has attended  
to it all excepting when about to form their cocoons.

Dise. pe 21  
12 to 16. DC.  
Ins. pe 66  
Pg 1. DC.

Food plants Mulberry  
Osage Orange &  
Lettuce.

note Dr Harris p. 380 says B. mori "should be placed after *Gastropacha*".

note "B. Mori in Packards Guide p. 293 is placed directly after *Platypenia* & *Drepanopteryx* (P. 55)

" before *Allacria*  
" The disease which destroys the insect called Muscadine & covers the body with a white efflorescence  
" was known in 1836 by Mr. Bassi to be a minute fungus " Botrytis bassiana in a state of vegetatum which  
" at first occupies the whole of the interior of the body then bursts through the skin" West 2. 388.  
" here are as shown by Captain Hallion twelve species of silk worms most of which  
have been confounded under the name of B. mori & which belong to the genera Bombyx  
of Schrank. Ocenara of Walker. & Trichosoma of Moore. There are six domesticated species  
of Bombyx. There is not silk enough in the cocoon of ocnara to make it worth  
cultivating (Hallion) Pack guide 295.

" native of the northern provinces of China whence in the reign of Justinian it was imported  
by the missionaries to Constantinople France to Sicily &c" Westwood 2. 382

*Bombyx*? *cycloioda*. Galman Westwood 2. 381

described by Galman as having the hind legs various like  
the fore legs of the nymphanda

*Bombyx madrona* Humboldt. West. 2. p. 381

" Larvae social in habits forming nests of a dense tissue & brilliant or whitened  
which are employed by the natives in the manufacture of silk."

*Bombyx Sericariae*, mori. Linn. Riley 4<sup>th</sup> Rep. 73

first attempts at sericulture were made in the beginning of the 17th Century in Virginia. & according to Mr H. Brown of Rhode Island \$30,000 to \$50,000 were annually raised in Connecticut from raising silk worms. \$5,000,000. are raised in the silk bushes now (1873) in Count. in the establishment of Cheney Brothers Hartford in Calif. Mr Riley report that silk raises at present is not in a very flourishing condition although in 1867 the value the raised in silk culture was at 16 bales the specimens alone amounted to \$115,000. in Kansas Mr Baissiere has planted 8000 mulberry trees near 2500 fine young trees in nursery to be planted out.

Silk worm continued

there are three races one annual produces only one brood in the year. a second known as biennial producing 2 broods and a third triennial which produces 3 broods annually. There are also races such as that of Mulan. Most of the triennials which habitually result but 3 times the male cocoon are often more pointed than those of the female. Copulation takes place soon after the adults come out of the cocoon. If the female begins depositing eggs in a day or two whether her eggs are perfect or not. the worm finishes its cocoon in about 3 days and the chrysalis is formed in about 3 days more. Remaining as a chrysalis 2 or 3 weeks when it gives forth a moth.

Captain Hutton states that at least 6 species of silk worm have been domesticated  
from Ent Soc 3<sup>d</sup> Series vol 3. 183-595  
note in Darwin Animals & Plants  
under domestication 1/p 362

The common silk worm Bombyx was first introduced to Constantinople in the 6th century whence it was carried to Italy from 1494 to France it is believed to have been domesticated in China as long ago as 2700 before Christ. Darwin Animals & Plants under domestication 1. 362

Bombyx more. Rep. Dep. Ag. 1866. 38  
The Chinese having invented the silk  
from the cocoon of the silk worm are said to  
Cook & eat the enclosed chrysalides

38a

Bombyx more injured by Pebrina. not known to be of vegetable  
or pathological origin (Arch. 82)  
& Muscardine a fungus from larvae eggs &  
well as body. (Arch. 82)

Bombyx more.  
Pebrina a peculiar sporotic attacking silkworms, frequently accompanied with by the appearance of dark spots upon the skin (hence name) caused by a multitude of cylindrical corpuscles each about ~~the size of~~ ~~one six thousandth~~ of an inch long (called by Lebert Panhusophytion) which swarm in every tissue & organ of the body & even pass into the ~~empty~~ undeveloped eggs of the female moth it is now certain that this devastating disease like Pebrina is the result of the growth & multiplication of this panhusophytion in the silkworm which is both infectious & contagious in 1856 the silk crop was reduced to one third of the amount it reached in 1853. Up to till within the last year or two it has never attained ~~one~~ half the yield of 1853.

\* Panhusophytion a microscopic organism. Annual Scientific discovery 1871. 362  
The disease known to France caused by Pebrina cannot be estimated at less than 50,000,000 sterlings a remedy is said to be claimed by Mr. Pasteur which is said to be successful but not described in the article. Ann. Sc. des 1871. 262

Silk worms  
Cocoons are taken in order to kill the chrysalids inside  
the eggs are best preserved on the cloth or paper on  
which they are denuded by the female last the winter by  
process as they are usually detached during the winter by  
removing the skin containing them in soft water  
for a few moments after egg are then scraped off with a  
piece of bone or in Italy sticks or thin wire  
by the Japanese which are usually covered with thin  
cotton as the most regular & every form manner can produce  
by placing the card in warmer known the name of which  
are enabled to heat the middle holding the insect  
are made to consume their eggs upon the sand. Reg. 4704

gious  
contagious disease amongst silkworms is caused by the development  
of a spore <sup>aspirana</sup> in the body of the caterpillar contagious because a healthy  
with a diseased one is pretty sure to carry off a spore or two  
spores become scattered about all sorts of insects in the neighborhood  
Annual Scientific discovery 1871. 361

ix. the larva of a "bombycid" moth  
lives under stones in stream sides to  
the surface for transformation the cocoons  
are found in clusters floating on the water in  
Cayenne Ann. Nat. VII. 493

ment museum is a very large cocoon, or rather a mass of cocoons of moths found on the isthmus of Panama, and which might be his cocoon is about eight inches long, by six and a half in its diameter, it is brownish white in color, somewhat triangular in shape, & thick, parchment-like covering, inside of which are layers of closing a mass of cells or cocoons of some gregarious caterpillar, sides of which are still within.  
ence mention "ovate nests of caterpillars on the Psidium eight  
ray silk, which the inhabitants of Chilpancingo and other places  
a manufacture into stockings and handkerchiefs." Humboldt  
numbers of similar nests of a dense texture resembling Chinese  
whiteness, in the provinces of Mechoacan and the mountains  
at the height of 10,500 feet above the sea. They were on the  
trees and were composed of distinct, separate layers, the inter-  
nest and very transparent. The silk of these nests, which are  
the work of the social caterpillars of a Bombyx, (B. Madrana,) was an object of  
commerce even in the time of Montezuma, and the ancient Mexicans pasted  
together the inner layers to form a glossy white pasteboard, which may be written  
on without preparation. Handkerchiefs are still manufactured from it in the  
"Intendancy of Oaxaca." W. V. Wells also mentions a somewhat similar insect  
in his explorations in Honduras. He says: "There is also an indigenous silk  
growing wild among the trees of Olancha, in Central America, the production of  
a species of silk-worm, constructing a large bag two feet in depth. Depending  
from trees in the open savannas, at a distance, the nest resembles a huge matted  
cobweb. A few pounds sent to England was made into handkerchiefs, not  
easily detected from the common silk, of equal strength and delicacy." And the  
writer adds, "that a profitable trade in this might be established, as it can be had  
in any required quantity, simply for the trouble and expense of gathering."

Report  
Aug. 25, 1866 p. 37  
A new introduced into Pennsylvania under  
the name of the Guinea is who arrived on 10. 5. 74  
to Aug. 15. By the members of the Order of St. Paul  
to Mr. M. Chapman (from Boston) from Florida  
to New York Aug. 21  
1863. Found in Guinea silk. This is the  
name of a silkworm of silk worms & the  
very worth 300 to 500 francs or more. The value  
is mentioned with others at about 150 francs. (222)

22

*Bombyx mori* *tytana* Rep. Depag 1866 p. 35-

It is said that this silk worm is a native of China but Leavis states that it originally came from Persia the province of Serica in southern Asia where in autumn the female lays from 3 to 500 eggs upon the bays of the white mulberry tree. It is claimed that the silk culture was known as a branch of industry in China 2,700 years before the Christian Era, it then spread to India & was afterwards made known to the Greeks through their wars with Persia. It is said that these insects were first introduced into France Constantine by two Egyptian monks in 555, a reward having been promised for the worms which produce silk. These monks secreted some of the eggs in a hollow cane. This was at the neck of their laces, the penalty for exporting them from China at that time being death. Henry IV introduced the silk culture into France in 1601. & Frederick the great into Prussia in 1710. The natural history of the silk worm is much the same as that of several of our common native moths, the eggs are hatched by heat of the atmosphere or

sometimes by artificial warmth. The young worms are at first of a dark color; they feed upon fresh leaves of the mulberry, and shed their skins three or four times while growing. When fully grown they spin a loose, flossy web, in the centre of which the cocoon is afterwards made. Two fine threads, issuing from two small openings near the mouth, are glued together by a sticky matter resembling silk itself, which is produced from two smaller glands very near the others. The caterpillar turns over and over in the middle of its web, spinning the thread around itself till the perfect cocoon is formed. Those which gradually contract towards the centre, in the shape of a peanut, are considered the best cocoons for making silk. They vary much in color, according to the variety of the worm, some being perfectly white, others yellow, buff, or of a greenish tinge. These last are from Japan, and were, together with several other varieties presented to the department by M. Guerin Meneville, of Paris. The worm, after perfecting its cocoon, changes to the chrysalis form within it, and in a few days works its way out in the moth state, after which it pairs, lays its eggs, and dies. The cocoons, thus perforated by the moth, are valueless for the purpose of reeling, and are often stained by a dark fluid discharged by the insect at the time of its escape. They are called "knubs," or "husks," and may be carded and spun like wool. The inner surface of the cocoon consists of a gummy matter, and cannot be reeled or used as silk. To prevent the moth coming out the cocoons are baked in an oven, or scalded in boiling water. Mr. Prevost, of California, states that exposing them three days to the heat of the summer sun in that climate kills them.

The article used by anglers, and known as "silk-worm gut," is the silk bag before being spun. The worm, when ready to make its cocoon, is put in pure vinegar for some hours, after which it is cut open, and the silk bags taken out, stretched, and dried. This is the silk gut of the shops.

As the silk-worms are often hatched before the leaf of the mulberry is out, European authorities advise feeding them on lettuce and dandelion leaves, but say they never make as strong and healthy worms as those fed entirely on the *Morus multicaulis* and *Morus moretti*, (see Mr.

The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

in 1700. The natural history of the silk-worm is much the same as that of our common native moths. The eggs are hatched by heat of the atmosphere, or

Bombyx. Strand. Hüt Walker &c Mori. Cat. Lepid East India house 374

Sericaria. Latre Blanchard.

"I. has been found wild in England. in 1858. "the 10<sup>th</sup> of June 1858. a number of silk worms estimated at from 80 to 100 were found under a hedge near Maidstone Kent the leaves of several plants in the neighborhood were found eaten the Rubus fructuosa or common Bramble being amongst the others" Cat Lep East Ind House. p 387. I know as Bat. in Bengal

Bombyx. Huttoni. Mustard.

Cat. Lep. East India house. 378.

Tanak worm.

xi. but is covered with long spines it feeds an elevation of 6500 to 7000 feet above the sea levelled in one season and cannot be silk worms but must at least for the present for more particular description of caterpillar

not inferior to that raised in other countries." This remark is probably the ground of the tradition mentioned by Beverly, that the king had worn a robe of Virginia silk at his coronation. The revived encouragement given by the colonial legislature to the culture of silk had the desired effect. Mulberry trees were generally planted, and the rearing of silk-worms formed a part of the regular business of many of the farmers. Major Walker, a member of the legislature, produced satisfactory evidence

of a fungous disease of the silkworm

{ precisely of the same nature as

the fungus. Enigma mica or the common fly a worm about to die of this disease becomes cayzed & the dorsal pulsations become irregular & few in a few hours becomes rigid & broken & finally in about a day a white powder is observed on the surface which covers the body developing most rapidly in a warm humid atmosphere this is caused by the development of a fungous growth Bolbyls boscarina in the body of the worm a similar disease in the U.S. destroys some of our native caterpillars of Arctia. Aeromyza &c. This disease is infectious only & not hereditary.

{ An epizootic disease of silk worms in my Petrine. The worms affected grow unequally & become languid & often show decolorized spots on the skin they die at all ages but the mortality is greatest in the last stage. This disease is entirely dependent upon the presence & multiplication of concretionary organisms or fluid bodies in the bodies of the diseased worms which were first observed by Mon. Guerin Moreville in 1849 & more recently investigated by Mr. Pardieu. These concretions fill the silk canal inside the intestine & spread through the tissues of the animal this disease is both contagious & infectious & is also hereditary on the mother's side & the eggs may be infected by the last four & good

0,000 trees growing in the year

if a like tenor were presented the

culture of silk was also contended were granted to settlers on mulberry trees on every ten acres heir cultivation. Trees, seeds, trustees, to whom the managerial clergyman and a native of in the art of rearing the worms the idea of the silk culture, and one side of the public seal was stages, with this appropriate

lunette containing "the account by the trustees of Georgia" it the trustees was in the year 1735, from Savannah to England. It

entries of large parcels of raw raised by the inhabitants, and agents of the trustees, who had in 1751, a public auction was of silk from the year 1750 to 1757, one thousand and fifty In the year 1758 this building d 7,040 pounds cocoons; but y exported upwards of 10,000 ggs higher per pound than that statement of William Brown,

in any of the British Amer- on, one hundred pounds; but eticut, and Pennsylvania are nium. For the next greatest bunds." OVER

*Clinocampa americana* Harr. Riley 5th Rep 1873 p 56  
egg bell pup<sup>6</sup> by Riley 3d Rep fig 50 uncolored cornet fig  
spine; as the eggs are covered with a glue like  
varnish which almost conceals them. (correct my mistake)

*Macrostole carolinensis* Riley 5th Rep 1873 p 56.  
E W White of New York Reynolds Co. sows seeds of  
*Satureja crenanervium* in every tenth hill on the  
outside rows of the tobacco field - this pulls up all  
but two plants. Every evening after destroying all but  
two flowers pours into them a few drops of  
fly poison & mixed with sweetened water whiskey.  
x blue stone of the dunggut.

*Cinocampa* *tuig* writer short hair may not acute  
antennae short. Larva gregarious egg  
arranged in a spiral coil 9 pictures.

(Pear) Or End 2. 121 Am End 1. p 208. Lar. 29.  
Am End 2. p 146. (de Baran) p 321

July 3<sup>d</sup> Rep. 117. Ulke Ag Rep. 1860. p 151

Bettinae. Right of { Fish 2<sup>d</sup> Rep. 1856 p 181  
Spiral gregarious Am. } 9 Mys. Ag Rep. 1855. p 15

Ontario 1871. 1. 80 Pack. June 301. Am End 1. 208

Pack PES 19. 3. 387. Mar. 235

1621015 a hedge inclosure. *Cinocampa* (Curtis) *americana* (Har) 9/18. 14 Har 370. { Fish 2<sup>d</sup> Rep. 1856 p 181  
error *Phalaena castrensis* + 8/18. p 60. 9 Mys. Ag Rep. 1855. p 15

american *Cinocampa decolorata* Walk Pack PES 19. 3. 387. Eggs pl 101 Lar pl 12. 9/1856. 1. 337. p 413

? *Bombyx americana* Fab. Tab. 2. 1852. 75. 9 Mys. Ag Rep. 1855. p 15

Apple tree tent Caterpillar. Plum Lackey moth (S&G) Lackey caterpillar (Plan) Ind 19. 57

{ Corn Int. Moths etc vol 7 pl 2. Egg 1 remain all winter) Egg 2 larva form (large cob web like nests in the forks of limbs) 9 sometimes do  
upon tree. Larva (hatch up May) much injury to the Apple Orchards in Maryland especially when  
neglected & the insects are allowed to multiply. June (Md) & May.  
Plum with white lines hairy & hairy a raw  
of blue spots along each side  
ball brownish red, fine wavy creases  
by 2 straight winter bands running par.  
all with the hand margin 1. 20. to 2. 00. Pupa formed in slight cocoons, of an or ai shape + but loosely woven in crevices  
of bark under boards etc 9 days in pupa state 14 to 15 days  
Insect appears the following May or June. (probably 2 broods in the South.)

\* pear. Dr. Ingraham however states it  
will never appear on pear see July. 3d Rep. 1120

Food plants Apple cherry plum

Wild Cherry Pear (Saunders Law)

Hab. Can (Saunders) N.Y. Me Ca (S&G) Maine South & Slim (Am. Ed.).

Parasites { Platygaster? in eggs. Pack End 1. 15. 3 (Pack) & Slim (Am. Ed.).  
Siphonopid fly Thor p 372. id 1862. Peach. Pear. Sycamore - at Rose Am. End 1. 15. 3

From eggs chalcis claviger. Fish 2<sup>d</sup> Rep. 200. & Mys Ag Rep. 1855. Vol 15. 430 Birch Auct 1858. Miller n. o. 1862

\* Grise proposed the name C. americana PES 19. 3. p 53%. to be retained instead of C. decolorata

Parasite Proctotrupes conquistator Po End 1. 19. { Herpestes in eggs. Pack 196 ne 4/1858. Pteromalus in egg Po End 2. 117

Proctotrupes advena (Cleocampae) Pack 196 ne 4/1858.

Cleocampa americana Riley 3<sup>d</sup> Rep. 117

Eggs deposited in oval ring. June on small twigs each cluster  
containing 2. to 300 eggs. Is covered by a coating of glutinous matter  
which dries into a sort of net work

one, fed together usually 2 or 3 a day. over w for now & once in  
the morning. larvae 5 or 6 weeks, & change skin 4 times

Shelter under web tent when not feeding & in inclement weather

Cocoons ~~paper~~ generally formed in crevices angles of fence & of an abloom  
plant form 4 of a yellow color. some <sup>are</sup> cocoons however are formed  
in the leaf itself

Remedies cut off egg clusters on bushes & destroying nests & caterpillars when  
in nest early in the morning or late in the evening & planting mild cherry  
trees in the vicinity of the orchard to which the moths will be attracted to deposit  
eggs. the nests destroyed by *Glycynous cleocampae* Lebed Rep. 1. p 209  
Semeletus " " Rep. 3. 141 of which are true  
destroyed them by the American oak horn (Coccyzus).  
Poplar, White Oak Witch Hiarle & birch Fish 3<sup>d</sup> Rep. 120

or Riley 3<sup>d</sup> Rep. 120

*Cleocampa sylvestris* H. americanus when on fruit trees

Remedy " when collected together on trunks they can be slaughtered en masse  
during the molting period. also search for & destroy egg masses when  
the trees are leafless. (Am End 4/1851 2. 261)

Even when going out of their nest to feed always travel on the upper side of the  
branches & each one leaves a thread of silk behind it which probably serves as a clue  
to direct it back to the nest. they do this when a time before attaining maturity &  
remain in the larva state for 5 to six weeks (Am End)

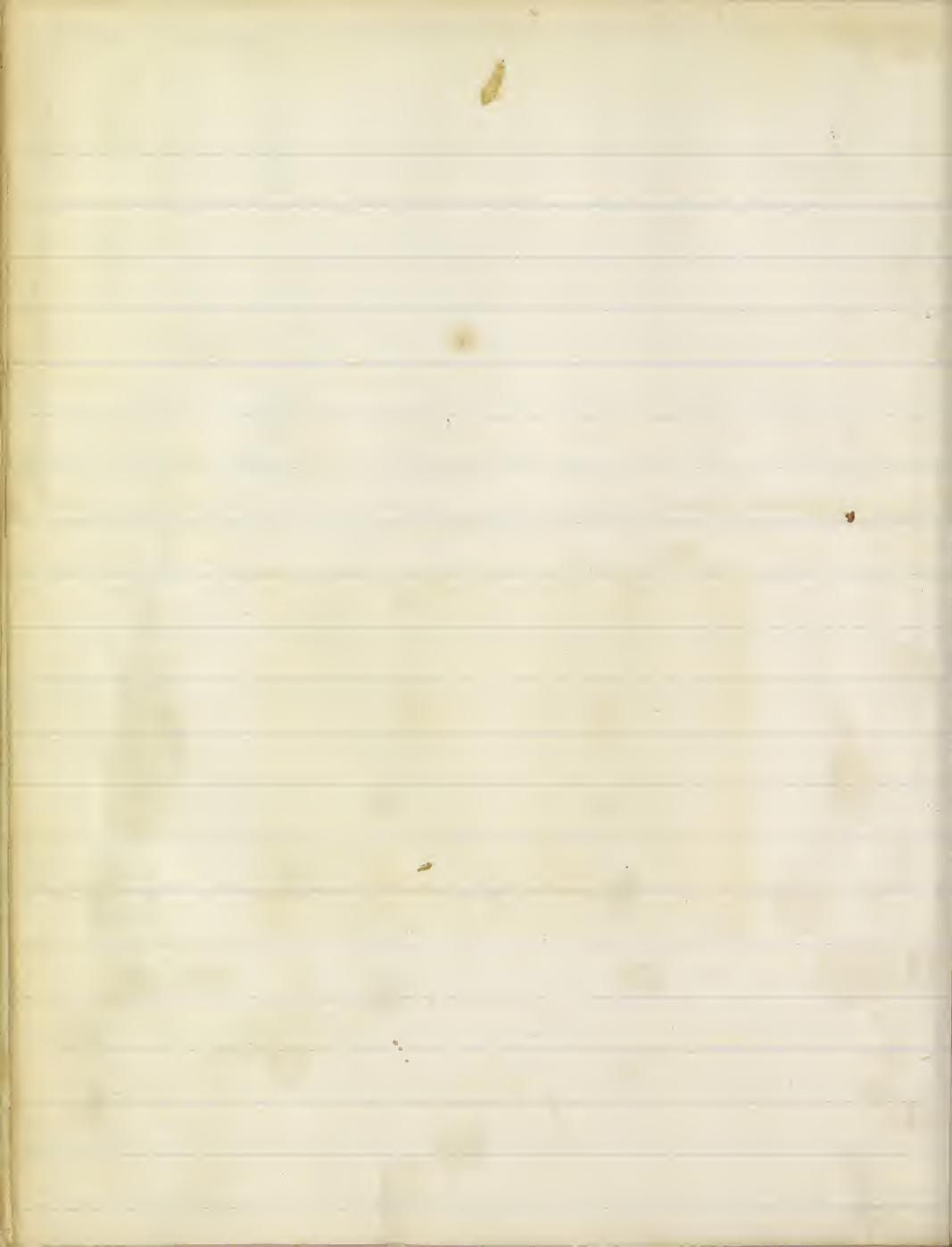
very closely allied is known by the common name of Lackey moth in Eng. Newman 62  
*Cleocampa* *neustria* (Leppla) Larva gregarious inhabiting a general nest which they extend from  
time to time quitting it during the night in search of food but constantly spinning a line of silk  
in order to direct them on their return before morning they finally quit the nest before changing  
into pupa the eggs are arranged in a spiral coil round the young branches of fruit trees!! West 2. 384

*Cleocampa americana*

Eggs infested by a parasite.

Plionymus (or allied genus)

Eggs probably laid within those of  
*Cleocampa* early in summer. Adult and in  
Autumn & late in Spring or early Summer Pack 207





40

Sam. 5. *Hemileuca*

*Oncinea* very small. Felted with scales, markings at the spiracles brownish white or greyish, faint generally. *absolute* *Ablabina elongata*, wings colored in reverse & antennae more lengthened. wings colored in reverse & thorax never creased.

W.S. L. fleshy naked grub, with a few straggling hairs, having 6 proctiger, 8 ventral & 2 anal setae, running on heads or the roots of setaceous.

Ev. & Enys  
a carpenter or  
worker in wood  
of the locust

*Xyleutes (Trib.) robiniae* (Han) G.F.P. 14 Pack PE S.P. 3.388

*Cossus* *robiniae* (Pack) fig. Rep. Man. vol. 67,

March 14 Mor. Syn. 124 + Fig. 411.3. Fitch J. N.Y. Soc. 1858 vol. 18, p. 784.

11/11/12

north

Am. Ent. vol. 2. p. 127 fig.  
woodcut.

*Locust costae* or *Locust Carpenter Moth*,  
eggs deposited in the chunks or crevices of the bark glued to the spot they touch with a glutinous matter.  
Larv. bore into the tree generally obliquely up & down before their transformation they generally line the passages with silken threads then form a cocoon & are supposed by Pack to remain 3 years in the larva state.

Das very prolytic abdomen specimen extruded upwards of 300 eggs within a few hours after its capture  
in appearance June 1st part of July 1859. 8 hrs old at night remaining at rest during the day

belonging to the nymphs of the tree the color of which is yellow variegated

{ the color gray & numerous black lines & dots } *Troll* *Shorts* *Locust* (Pack)

{ the wings a black line on the inside of } *The larvae of the Locust moth* 4. ? *Crab apple* (Am Ent)

{ the thoracic appendages Pack grade 301 } *Cossus ligniperda* of Europe probably the cossus eaten by the Roman queues & considered as a great delicacy worth 2.37 per pie

Hab Can. Bathom Can. 1st. McCab Maine Mass Pack)

### *Xyleutes robiniae*.

L. 2. 20. Reddish above. Vellum beneath head & torso pale grey brown & shelly hairy short hairs arising from minute warts.

P. Amber colored changing to brown for wings. Im. female grey for wings thickly covered with dusky netted lines. Irregular spots hind wings dusky shoulder cross. Edges with black mottles.

male smaller than female. darker colors. Have a large ochre spot on hind wings

*Cossus*. the Curva of some larger insect said by Pliny to have been fatted with flour & was esteemed a great delicacy by the ancients Rep. Dep. Aug. 1866. 38

### *Xyleutes robiniae* Am Ent 2. 127

Locust carpenter moth.

Southern Oak. Crab apple.

Remedy. application of soft soap to trunk as far up as possible in red stem. the moth being very sluggish may be caught at the same time with in the morning.

*Cossus ligniperda* European Rat.

→ destroyed by *Lissoneota setosa* European Rat  
see Hyg. pl. 10 fig. 401

### *Xyleutes quercipeda* Fitch G.F.P. 14 Pack PE S.P. 3.389.

*Cossus* " Fitch 5th Rept. 1859. p. 10. Mor. Syn. 125. Fitch J. N.Y. Soc. 1858. 12. 791.5

(with smaller than Robiniae with thin brownish wings which are crossed by numerous black lines)

) the outer margin of the forward pair only bear a trace of a gray color the hind wings are colorless with the inner margin broadly blackish & the hind edge coal black (Fitch) ? Ins. pl. 76 \* fig. 12. Coll. of Ent. Soc. Phil.

differs from *X. robiniae* in the further more convex costa of the fore wings the apex is not so much produced the outer edge much shorter & not so oblique thus making the inner edge much longer. it is also smaller

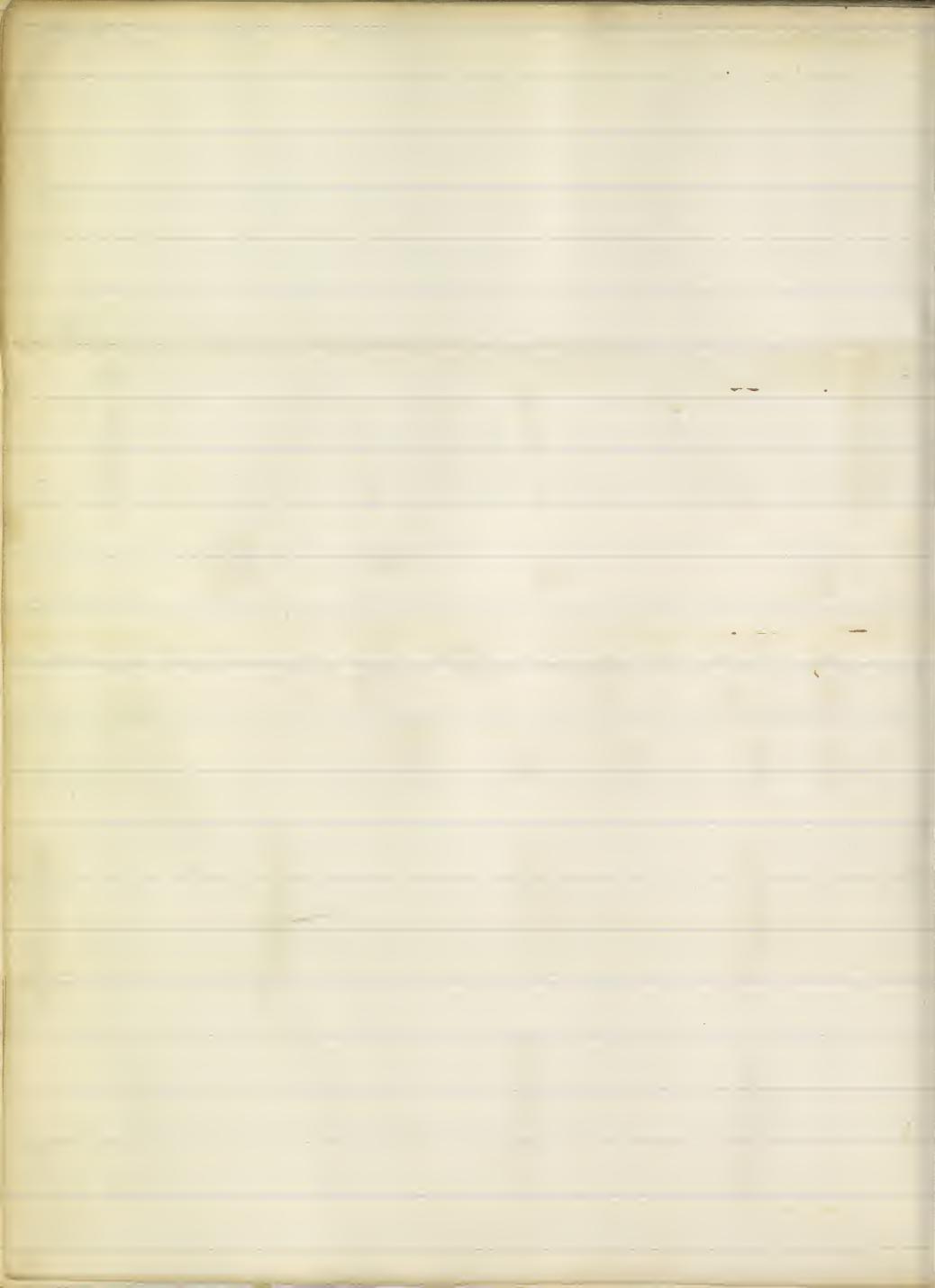
\* Also this figure was taken from a specimen so labelled in the collection of the Entomological Socy of Phil. Mr Lintner doubts if it is the true *quercipeda* of Fitch

*Cossus quercipeda* Fitch. Smaller than C. *Robiniae* with thin & slightly transparent wings which are crossed by numerous black lines. the outer margin of the outer margin only of the forward pair being opaque & of a gray color the hind wings colorless with the inner margin broadly blackish & the hind edge coal black. Mor. Syn. p. 125.

Evidently a mistake. what is it?

very oak  
so to low

Paul Tree



*Xyleutes robiniae* Pack  
*Xyleutes creperu* Kar. GGR 14. Pack P.E.S.P. 3.388. Pack. Guide 302  
Cassus " "

In. attracted by light & at the Md Ag<sup>c</sup> college it  
was observed that at least 3 females were taken  
to one male - the most common species in Md. }  
Lar. puparia was taken in the decayed wood of Oak. }  
(Md) nov. } Ins. pl. 63  
} fig 1. g. Ma

" Sab. Md. (LG) common.

Food plant. Oak. ♂

" Red Oak Locust (Pack guide 302)

\* These insects were at first thought to be *X. robiniae* but Mr Lintner of Albany writes  
pl. 63 fig 1 "nor robiniae which has not posterior wings acute - probably *Creyrei*" Lintner notes  
as to pl. 63 fig 4. ♂ it was taken about the same time as the ♀ in the same room  
it is evidently ♂ of pl. 63. fig 1 as all the males & females captured were of this  
same species. much more

" It was observed that the females above appeared to be attracted by light - threw ♂

*Xyleutes populi* Pack. GGR 14. Pack P.E.S.P. 389.  
Cassus " Walk. Mor Sign. 194.

Hab. St. Martins falls Albany river Hudsons bay Barnston Marsh, Pack

*Xyleutes plagiatus* Pack GGR 14. Pack P.E.S.P. 3.390  
Cassus " Walk. Mor Sign. 194.

note in Pack P.E.S.P. 3.390. "I find the following note in the systematic list of  
Canadian Sepidoptera by W. S. Macfie. It's Natl. & Geog. Aug 1860. p. 247

"*Cassus plagiatus* Walker rare July"

Can early  
Can End 12<sup>th</sup> 1860  
Bettina In 1857. Mr T. R. Peale of the US Patent Office named this species *Cassus Macfie*  
He informed me that it was common south of Pa. but rare in the Western States"  
*Xyleutes Macfie* of GGR List 480c above.

(93)

42

*Leucania* to bind  
or tie together

*Leucania* (*Tab.*) *purpurina* (*Tab.*) *G.R. 14.* Walk. Pack PESR 3.390. Mor Syn. 125

Hab "North America" Tab.

*Leucania canadensis* (*H.S.*) *G.R. 14.* Boisid. 11 Sch. Walk. Pack PESR 3.390. Mor Syn. 125  
Canadian *Leucania*

Hab Can. (Pack)

*Cecialini*

*Hesipalus* n. sp. W. 89. Labiate habitus obsoletus antennae simpliciform & much  
shorter than thorax

♂ fore wings  
of look or appearance  
argentous silver  
maculatus spotted

*Sthenopis* (*Pack.*) *argenteomaculata*. *G.R. 14.* Pack PESR 3.391

pl. 7 fig 6. Mor Syn 125

*Hesipalus* "

" War Cat Ins Mass. p. 72. 1835. Agawam Lake Superior p. 389

*Gorgopis* "

" Gr. p. ESP. 3. 73. Pack Boston Tour Nat Hist 1863 p. 596

*Ephelus* "

" Mor 14. Mor Syn 123.

*Silver Spotted Hesipalus Har.* Dragon Moth Canadian 2. 208 Ins Me. 101  
*Hesipalus* *argenteomaculatus* Har. 410 Naturalist Gres. 79. fig 77. Jour Har fig.

In color Ash-gray fore wings variegated with dusky clouds & bands. There a small  
blue patch at the base of the fore wing near the apex. The hind wings  
are tinged with orange yellow near the tip (Harr) 2. 75.

Hab. Lake Superior Saskatchewan St. Martin's falls Albany river Hudson bay Parc West 1c  
The much of *Hesipalus* are seen by June in Can Nat. to have a numerous singular flights & continue in one year  
driving or flying from side to side just above the herbaceous margin the space of a yard or two (Can Nat 2. 248)

*Hesipalus*

*Sthenopis quadrivittata* (*Pack.*) *G.R. 14.* Pack PESR 3.392.

Ins pl. 7 fig 6. 1835

\* *Gorgopis* - " Grote. PESR 3. p. 73. pl. 1. fig 6. q. 4. Vol 3. p. 535

- error of *Hesipalus argenteomaculata* [error Harris in Lake Superior (G.R. 1st)] Har. 410.

error *Hesipalus argenteomaculata* [error Pack.] Walk.

error *Sthenopis urgen.* [error Pack. (see G.R. 1st)]

Ins pl. 7b  
fig 10. Coll of Ent Soc Phil

Hab Great Slave Lake (Grote) Pack.

\* allied to *G. argenteomaculata* Har. " The disposition of the median bands on  
the anterior wings is somewhat different. If they are not so largely tinged with  
ochraceous, the two white spots are somewhat smaller & the apex not so fuscate  
whilst the coloration of the abdomen metathorax & posterior wings readily distinguishes  
the present from Harris species " Grote PESR 3. p. 73.  
readily distinguished from *argenteomaculata* by the smaller white guttations &c  
Locality PESR 3. 535.

*Sthenopis argenteata* Pack. *G.R. 14.* Pack PESR 3. 393.

Hab. (Mass.)

Ins pl. 67  
fig 18. Coll of Mr Saunderson

Note "Judging from Mr Grote's figure of *S quadrivittata* the fore wings are more  
fuscate & colors are of a darker shade & the 2 basal silver triangular spots  
on the fore wings are several times larger than in the species from the  
Great Slave Lake" (*S quadrivittata*) Pack PESR 3. 393.  
allied to *S humuli* of Europe.

*Sthenopis purpurascens* (*Pack.*) *G.R. 14.*

*Gorgopis* - " - "

Hab. base of Mt Washington

*Hepialus*

This insect resembles *H. pulcher* from Colorado  
most probably is merely a variety of it. See pl CXXII

*Hepialus. hepialus* Agar *Hepialus* (Linn) *gracilis* (Groote) GHR 14 Grote PESR 3 p. 523. pl 5 fig 4 ♂  
*gracilis* *Cephalus swifti* Heudebau 19.

moltos. See in a moth.

Hab. Canada (Gr.)

Ins pl. 80  
Fig 23 fm Gr fig

*Hepialus mustelinus* (Pack) GHR 14. Pack PESR 3. 393.

*mustelinus*  
See a measet.

Ins pl. 65  
Fig 10 coll of Mr Sanborn. Mass

Hab. Maine Mass. (Pack)

*Hepialus pulcher*. (Groote) Grote PESR 3. p 522. pl 5 fig 3. ♂

Hab. Colorado (Ridings) Groote

117/1. ? Ins pl. 80.  
Fig 24 fm Gr fig

♂ *Hepialus* (affinis) Harr. 410.

Lar. lives in the pitch of small branches of young trees. By its irritation Lar pl. 6 causes the twigs to curve around the host alighted there holding by shaggy & also perforates by its caterpillar, are weaker than the rest of the stem. Aug 1860. (Harr) Locust tree. Aug 4 Sep. Larvae live in the interior of small locust branches (Harr) Aug 4 Sep. devour the inner part of the wood & pitch, this causes an unshapely swelling - until finally the branch dies or is broken off by the wind. Pupa formed among leaves on the earth in Autumn.

see also Harris P. 318.

plant Locust wood  
of small branches

♂ *Hepialus hyperboricus* Motschler. GHR 14  
hyperborean Hepialus

*Hepialus labradorensis* Pack. GHR 14 Pack PESR 3. 394.  
Labrador. Hepialus

Aug 3. 1860. A.S.P. Jr.

Hab. Salmon bay on Caribou Is. Labrador, Straits of Belle Isle. (Pack)

P. 1860 No. 2. Aug 3. 1860  
g. Sphaerica Belisle  
Carn. N. 352



2

47

## from List 2. of Canadian Lepidoptera

by Mr. Wm. Saunders

London Ontario Co.

Can.

## Noctuina (Staint.)

## Sphingidae Bombycoformes

## Cymatophoridae (Hoch)

Gonophora

Myotaria

Pseudomyotaria

Lepisma

Cymatophora

## Briophilidae (Guén.)

Briophila

Grammophora.

## Bombycidae (Guén.)

Microcilia

Diphthera

Acronycta

Balsa.

Genus.

## Leucanidae (Guén.)

Mythimna

Elekogramma

Leucania

Nonagria

## Chionidae (Guén.)

Gortyna

Hydriomena

Nephelodes

Lycephaesia

Lachrygma

Prodenia

Mamestra

Apamea

Mania

Calocoma

## Noctuidae (Guén.)

Agrotis

Spaelotis

Graphiphora

Echompleura.

## Orthosiodae Guén.

Ceramica

Orthodes

Cerastis.

Xanthia

Cirredia

## Itacadiidae (Guén.)

Phlogophora

Euplexia

Euxoa

Hadena

## Xyleniidae Guén.

Calocampa

Xylophaea

Cucullia

Crambodes.

## Heliothidae (Guén.)

Alaria

Aspila

Heliothis

Centroscia

Minoreta

Erasistridae (Guén.)

Chrysops

Erasista.

## Quatridiae Variegatae

Enopidae (Guén.)

Erebius

Plusia

Calpe

Dova.

## Glossipteridae (Guén.)

Scolopendryx

## Cnethidae (Guén.)

Lemniphysa

## Extensae

Comptoceridae (Guén.)

Comptocera

## Gimbalidae

Bolividae (Guén.)

Synida

Catocala

Verdentinae

Othioidae (Guén.)

Ophiusa

Euclea

Drasteria

Panopoda.

## Hedoleidae Hst.

Stephaniidae Hoch.

Hypena

Bleptina

Hormenia

Celia

## Pyralidae Staint.

Pyralidae Guén.

Pyralis

Aglossa

Pyrausta.

Ennychia

Selinula

Samea

## Pyralidae Guén.

Calocysta

Margarodidae

Luecostroma (Guén.)

Botyidae (Guén.)

Bolys

Eubalaia

Pinea

## Geometridae Guén.

Curculionidae Guén.

Chorodis

Eutropaea

Ennomidae

Priocycia

Anzona

Hyperestis.

Nematoxania

Entomoptera

Meturocampa

Ellofua

Calopodes

Eunomos.

Tetracis

Metanema.

## Amphididae Guén.

Biston

Amperdastrys

Boarmidae (Guén.)

Hemerophilus

Boarmia

Cleoria

Geometridae (Guén.)

Aplodes

Lerene.

Acidalidae (Guén.)

Ocidalia

Camalopsis

Caberadae (Guén.)

Caberada

Corycia

## Macaridae Guén.

Macarea

## Tidoniidae Guén.

Loxogramma

Numeria

## Larentiidae Guén.

Incalantia

Melanippe

Anticlea

Chematalobia

Thibalapteya

Corema

Secticia

Spanigama

Cedara

## Scionidae Guén.)

Heterophleps

Baptiva

## Heterocidae (Guén.)

Hypermia

Amisoperyx

## Corticidae Staint.

Plicatae Hst.

Sorolaimia

Paediosa

Peroneidae

Teras

Cnephasiidae

Sciaphila

Noctuidae H. from Morris Catalogue  
Published by Smithsonian Institution 186

Fam Noctuidae  
Noctuinae Linn.

- Diphthera Ochs p 26  
*Acronycta* Ochs .  
*Bryophila* Freitschke 27  
*Grammophora* Guen  
*Xanthia* Ochs 28  
*Micrucealia* Guen  
*Leucania* Ochs  
*Mythimna* Hüb 29  
*Ranuncula* Hüb  
*Hypotricha* Guen  
*Glossula* Guen  
*Cosmusa* Walk.  
*Leptidea* Guen  
*Apertella* Fab  
*Mamestra* Ochs  
*Dianthaea* Guen 30  
*Mesogona* Bdv  
*Corcoedea* Guen  
*Cosmia* Ochs.  
*Orthosia* Ochs  
*Opharodes* Guen  
*Apamea* Ochs  
*Sylophasia* Steph  
*Hadena* Bdv  
*Hemeria* Hüb 31  
*Marmorina* Guen  
*Letis*.?  
*Erebias* Latr  
*Pseacyma* Hüb  
*Comptosia* Bdv.  
*Ingrata* Guen 32  
*Placodes* Bdv  
*Catocala* Schrank  
*Glaucia* Ochs 33  
*Acontia* Ochs  
*Agromonina* Hüb  
*Bendis* Hüb  
*Pseudophia* Walk.  
*Chrysops* Guen  
*Euclidea* Ochs — 34  
*Anouris*  
*Monegona* Guen  
*Scarava* Walk.  
*Sciotelitis* Guen.  
*Anthocela* Bdv.  
*Hecrothi* Ochs  
*Samia* Walk  
*Phodophora* Guen  
*Alaria* Hüb  
*Lepidolya* Guen — 35  
*Aspilia*  
*Chloridea* Steph.  
*Unorta* Hüb  
*Encodes* Freitschke  
*Calosticta* Hüb  
*Sericomyza* Guen  
*Derrima* Walk  
*Argophila* Bdv  
*Calyptra* Guen  
*Plusia* Ochs

- Basilodes* Guen  
*Hemiceras* Guen  
*Erastria* Ochs.  
*Bankia* Guen 37  
*Erastria* Ochs  
*Anthophila* Frets  
*Galgula* Guen  
*Xanthophila* Guen  
*Meria* Guen  
*Microphyra* Bdv.  
*Phalaena* Inedit.  
*Chionoptera* Guen  
*Pola* Bdv  
*Raphia* Hüb  
*Hecatera* Guen  
*Phlogophora* Ochs  
*Euplexia* Steph  
*Polyphearia* Bdv  
*Pola* Ochs  
*Eurois* Hüb 38  
*Pola* Freitsch.  
*Alectra* Guen  
*Hadena* Ochs  
*Pola* Freitsch  
*Cassandra* Walk.  
*Epaneta* Bdv.  
*Calycampa* Hüb  
*Sphecodes* Guen  
*Scoliocampus* Guen.  
*Achatodes* Guen  
*Xylomyzes* Guen 39.  
*Xylina* Freitsch  
*Laphryzma* Guen  
*Prodenia* Guen  
*Thracia* Bdv  
*Hebetropis* Guen  
*Eugynodes* Guen  
*Miania* Walk.  
*Celaena* Steph.  
*Pirgea* Guen  
*Monodes* Guen  
*Canadina* Ochs  
*Xylina* Ochs  
*Kapalio* Hüb  
*Agrotis* Guen  
*Spaelotis* Bdv  
*Agrotis* Ochs  
*Caradrina* Hüb  
*Graphiphora* Ochs  
*Necta* Linn  
*Caprotis* Hüb  
*Pola* Hüb  
*Ornithodes* Hüb  
*Ornithia* Ochs 40  
*Ornithia* Ochs  
*Ornithodes* Hüb  
*Ceramica* Guen  
*Taeniocampa* Guen  
*Orthosia* { ochs Steph H.S.  
*Ceratini* } H.S.  
*Ceratini* H.S.  
*Scopolarisma* Curtis  
*Hesperina* Guen &  
*Xestia* Hüb  
*Xanthia* Ochs H.S.

- Leucania* Ochs 41  
*Amphipyra* Ochs  
*Crambodes* Guen  
*Oreia* Geyer.  
*Agrotis* Ochs  
*Ypsis* Guen  
*Actias* Hüb  
*Camptogramma* Guen 43.  
*Hypogramma* Guen  
*Laphystea* Guen  
*Allotria* Hüb  
*Panula* Guen  
*Bolivia* Bdv.  
*Syneda* Guen.  
*Parthenos* Hüb. — 44  
*Drasteria* Hüb.  
*Lysnia* Guen  
*Sophila* Guen  
*Pharys* Guen  
*Laspeyria* Guen  
*Catoptria* Guen  
*Isogona* Guen 45  
*Perimecia* Guen  
*Panopoda* Guen
- Div Heteroceridae Latr
- Hypena* Schrank 46  
*Hemerina* Latr  
*Panula* Guen  
*? Eupachia* (Clem)  
*Bactria* Guen 46.  
*Hedya* Guen  
*Epyris* Freitsch  
*Pteria* Guen  
*Clouyna* Guen  
*Kormis* Walk.

Fam Pyralidae Guen

- Phacellura* Guenius  
*Pyralis* Linn  
*Aglossa* Latr — 47  
*Choraria* Guen  
*Byturus* H.S.  
*Herbulotina* Guen  
*Byturus* H.S.  
*Lemniva* H.S.  
*Samea* Guen  
*Aspisca* Freit.  
*Pyraea* Guen  
*Agathodes* Guen  
*Insperityx* Guen  
*Stena* Guen  
*Dorthredes* Guen  
*Spilomela* Guen  
*Curculio* Guen — 48  
*Margaronia* Hüb  
*Margarodes* Guen  
*Hornodes* Walk.  
*Bostryx* Latr.;  
*Eubulea* Guen 49  
*Doles* Latr  
*Homophylax* Guen  
*Ponea* Guen  
*Acridodes* Guen  
*Spilodes* Guen  
*Scopula* Schr  
*Nymphula* Schr  
*Megyna* Guen  
*Galleria* Latr. 50

Fam Tortricidae

- Loxotenia* Steph 50  
*Tornix* Freit.  
*Glycospila* H.S.  
*Pseustina* Freit.  
*Angylolechia* Steph  
*Conispa* H.S.  
*Chryphipatra* Dufourchel
- Fam Geometridae 1
- Teleuthria* Zeller  
*Apheuca* H.S.  
*Miclois* H.S. — 51  
*Penitela* H.S.  
*Anacampsis* Curtis  
*Cerostoma* Latr  
*Argyromyzes* Steph  
*Sinna* Latr.  
*Xylosteua* Clem  
*Antonyia* Clem  
*Leucophora* Clem  
*Endocuraria* H.S. orth  
*ornix* Schenck

- Brachytacna* Steph 52  
*Plutella* Schrank  
*Hypomecis* Zeller  
*Eudarcia* Clem  
*Chaetochiles* Steph  
*Cerostoma* se mon  
*Argyrosticha* H.S.  
*Graecaria* Zeller  
*Orgyia* Freitsch  
*Cosmopteryx* H.S.  
*Becellia* H.S.  
*Cosmista* Clem  
*Celephora* Zeller  
*Macrorhisia* Clem
- Fam Lecithoceridae

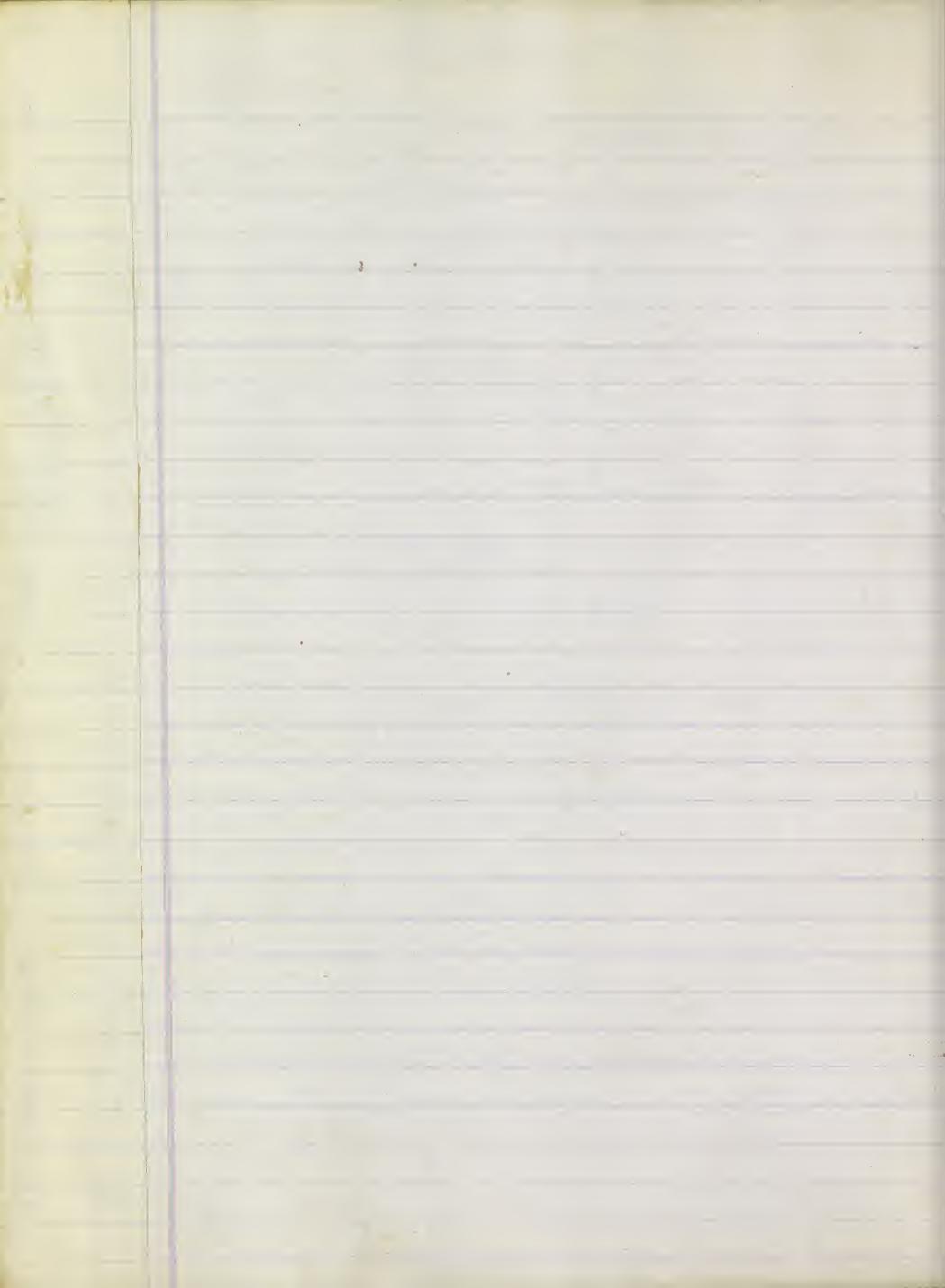
- Lecithocetes* Zeller  
*Tischeria* Zeller  
*Phyllocnistis* Zeller — 53  
*Leucanthonia* Clem  
*Bucculotricha* Zeller  
*Autispila* H.S.  
*Uspida* Clem

Fam Pterophoridae

- Phalaenites* Gr  
*(Geometra) Linn)*
- Choreodes* Guen  
*Eunica* Hüb  
*Arenaria* H.S.

Fam Ennomidae

- Apicea* Guen 55  
*Microsema* H.S.  
*Amisopus* H.S.  
*Procydela* Guen  
*Epius* Linn.  
*Sycia* Guen  
*Angerona* Lipp.  
*Hypocrita* Guen  
*Remosampa* Guen  
*Endromis* Guen  
*Metrocampa* Latr. 56  
*Elodia* Freit.  
*Caberodes* Guen



Bombycinae with worn *L. Bombycina* W.M. G. 426881  
 oblique wrinkles & minute other wrinkles of faint  
 maxillary teeth present very small, outer surface black & having  
 antennae males few very thin only slightly thickened at tip  
 wings easily seen when extended horizontally or folded  
 all the veins costal & basal ones have excurrent veins  
 anterior them not excurrent. Legs open of antennae & wings  
 naked often have a transverse series of wrinkles on each  
 segment each furnished with a covering coat of hairs  
 16 pairs. Tarsi formed in coconuts of silk - only underground.

*Noctuinae* Stainton

Typhidae. *Bombyciformes.* Saunders (in.)  
*Cymatophoridae.* H. Schaeff.

{ Revision of Cymatophoridae Gr PESP 2, p. 57.  
 { *Pseudothysanata* of Grote PESP 3, p. 539.  
 { 1. Cymatophora. 2 Leptina 3 Lacinia 4 Gonophora 5 Thyater

*Cymatophorina* (Walk) *cumplagia* (Walk) Grote PESP 2, p. 56. Mor (Doubleday) 26.

2 pairs a mane }  
 Pairs bearing }  
 canis. gray hairs  
 blaga - a stripe on stroke.

Hab Can. (Walker)

? 15 pairs. narrow?

*Leptina* (Guen) *Doubledayi* (Guen) Walk. Gr PESP 2, p. 58. Mor 27.  
 Double day. *Leptina*  
 Insect taken in July Md.

Ins pl. 59  
 fig 13. Md.

Hab N.Y. (Guen) Grote. North St. (Mor) Md. S.G.

4XXXIV  
 13.

ophthalmica  
 an ocellat.

*Leptina ophthalmica* (Guen) Walk. Grote PESP 2, p. 57. Mor 29.

Insects from coll. of Mr. Saunders Canada (rare) Ins pl. 83  
 "of rare occurrence" Gr pg 29. coll. of Mr. Saunders Can.

Hab Miss. (Grote) N.Y. (Mor) Can (rare) Saunders 102/3

Ins pl. 89  
 fig 30. coll. of Mr. Saunders Can.

formosa fair or  
 handsome

*Leptina formosa*. Gr Grote PESP 4, p. 323.

Insect figured from a drawing kindly lent by Mr. Grote. Ins pl. 81  
 fig 75. Mass.

Hab Lawrence Mass (Grote) coll. of Mr. Jas. C. Treat

dominans  
 Lepidius

*Leptina dominans* Guen Grote PESP 2, p. 57 Mor 29.

Hab Miss. St. (Grote) N.Y. Mor.

slate smaller than Ophthalmica

luteola  
 a lichen on one who  
 hangs in private

*Leptina latribucula* (Grote) Gr PESP 2, p. 57.

Hab N.J. (Grote) resembles *L. dominans* in markings & coloring but is larger than  
 the costal straight & the exterior margin less oblique (Gr)

*Leptina*.

This slate from silica by Prof. J. G. Thomas.

Ins pl. 82  
 fig 3.

*Leptina Doubledayi* Guen

74/16. Ju

(95)



*Pseudothelia* (Grote) *cymatophoroides* Grote PEST 3. 539.  
*Hypatia* " Guin. Walk  
*resembling a cymatophora* *Laetania* — " Grote PEST 2. 58. PEST 2 (larva, 134 ♂. 2. 837.  
 also well clothed with hair anteriorly — (various) <sup>16.44</sup> <sub>17.9</sub> Coll. of Mr. Grote  
 Lar. light green with pearly spots on the anterior segments Ins. <sup>W. 52.</sup> <sub>17.9</sub> 2nd  
 attain full growth in June (Grote PEST 2. 134)  
 Ins. appears July. food plant <sup>17.9</sup> <sub>17.9</sub> 2nd  
 8 fm Oak (Grote)

*Hab East & West States, Can., N.J. (Gr.), Ia., Bro. (Fl.) Nova Scotia Bethune to Nov 8c Inst  
2.82*

one that comes away  
*Pseudothyatira expullatrix* (Grote) Grote PESP. 3. 539.  
*Thyatira cymatophoroides* Guen Walb.  
*Lacinia expullatrix* Grote PESP. 2. 58. pi. 2 fig 6 ♀. PESP. 2. 134 (lava) & PESP. 2. 33%  
 Lar. light green without the pearly spots & uniformly  
 but very slightly clothed with hair. V allain full  
 size in June  
 Lar. pl. 63  
 fig 15. fm Grotz  
 fig  
 Ins appears July Gr. PESP. 2. 134  
 Food plant Pin Oak. <sup>v</sup> Cr.

Hab. East\* Mid States Can. (Gr) Quebec Can. (Saunders) No

"differs from *cymatophoroides* by the absence of black spots at the base & internal angle & strongly marked bands on the upper wings 95 Gr PESI. 2. 58

*Habrocyane*. Grisea  
*Synophora* (Boucard) *scripta* Gossé Can. Nat. 249. Walk. Gr. PEGP 2, 58 pl. 3, fig. 2  
*Syntaxis abrasa* Guén Mor 26.

Ins pl 48  
fig 4 Mnd

Hab. Mid East " States Can. Long Island. (Grote.) Ma (G)

*backful modest* *Myatira*. Larvae like *Neoledeum* the segments being hummocked & the anal legs raised while at rest (Black guide 304) *ins pl 76*  
*Hab. N.Y. & Que.* (Broto) *fig. 3. Coll. Ent. Soc. Phil.*

"*Sphyraena* (Europe) *Sphyraena* naked but furnished with a number of conical tubercles throughout the whole length of body" *Nat. Hist.* 2. 395

Leisure 23 Ann Rep. Mex. Col. nat his 62.  
*Polygraphula pallidobrunnea* Guén. J. Lucy  
between Mt. Soledad & Miramar

*Euthisanotia timais* Noctuinae Gr.

*Phylochrysa* (Gr.) *regnatrix* Gr. Grot P. 2 p. 339. pl 8 fig 1. 9 page 441

\* ? *Euthisanotia timais* Cramer. Gr. PESP. 2 p. 441

Ins pl 76

fig 2 coll Ent Soc Phil

Specimen taken in a lighthouse near the Coast.

Note "connecting link between *Cymatophorina* & *Noctuinae* V as such should head the family *Noctuinae*" (Grot P. 2 p. 339)

\* "may be regarded as a native of Slem & the West Ind but which occurs at different localities along our coast" Grot P. 2 p. 340

Polyophilidae Guén

*Argopelta* (Forschke), spectans

Mar. 27.

Hab. Can. (Saunders)

*Polyphila tritophora* H.S.

*Erastria inscripta* Walk. Gr. A.E.S. 2 p. 78

G. Warner

*Grammophora* (Guén) trisignata (Hab.) Mor 27. ? Lar young 18. Darberry Sip Md.

*Grammatophora*. trisignata Pack Guide 304. Not dentata Segittata Har Corp. Lar. old 36

Lar figures 234 pack said to be brown with three to the 67 fig 11. Mountain Ash Sep 24  
oth abdominal rings much paler. It has the unusual power of fig 13. Coll. of Mr. Sanborn Mass.  
Hab. Can. (Mor) boring very smooth cylindrical holes in wood from 1/2 in. to 1 1/2 in. (fig 13. Coll. of Mr. Sanborn Mass.)

Note. These two figures of Larvae answer both to Pack's outline & description

? Liac. Pack Beau

from Mrs. of Brigham, Larva just mounting

from an article of lace. L. 12. Pack guide 304

Merry Mountian Ct.

59

? *Polygrammate hebraicum* ~~Hebraea~~ Hub

*Grammophora* (Guén) hebraea. (Hab.) & Guén. Mor. 27

Ins pl 51.  
fig 34. Ma.

Hab. Geo. (Mor) Ma (L.G.)

→ *Bombyx* Europe destroyed by *Synurus obsoletus* Kutz p. 10<sup>32</sup>

→ *Bombycidae* 6 eggs destroyed by *Tolype laricella*

Bombycidae Guén

Rab. 10. 31.

694

*Microcilia* (Guén) daphneoides (Guén) Mor. 28. Gr. PESP. 3. 78. <sup>fig 12</sup> L. Gr. A.E.S. 2. 195. pl 3 fig 1

Microcilia (Guén) daphneoides (Guén) Mor. 28. Gr. PESP. 3. 78. <sup>fig 12</sup> L. Gr. A.E.S. 2. 195. pl 3 fig 1

Ins flies June - July.

Ins pl 67.  
fig 11. Coll. of Mr. Sanborn Mass.

Hab. Atlantic Dist. (Gr. & A.E.S.) mid & east St. N.Y. Mor.)

obliviated or faded *Microcilia obliterata* n.s. Gr. Grot 3. p. 79. Gr. A.E.S. 2. 195. pl 3 fig 79 q

Ins pl 62.  
fig 1. Ma

Hab. East & mid St. (Gr.) Ma (L.G.)

Ins pl 70.  
fig 8. coll of Mr. Grot

stems to hind  
rears

*Microcilia notarducta* Walk

Hab. Canada Saunders

(97)



frail *Microcælia fragilis* (Guen) Mor. 28. Walk. Grote P.E.S.P. 3. 80.

Ins. rare London Can. (Saunders)

Ins. pl. 82  
fig. 6. coll. of Mr. Saunders

Hab. Can. East & West St. (Grote) 804 (Mor) Can (Saunders)

*Histeria* (Ols.) *Graeffei* Gr. pl. 68. fig. 6.  
? *Histeria capricornis* (var. 46.)  
*Graeffia* *Graeffia*

*Apostila innolata* Guen

Ins. pl. 68  
fig. 18. coll. of Mr. Walsh H.C.

*Dipthera* (Ols.) *Graeffei*. Gr.

Ins. pl. 73  
fig. 7. fm. Grotius fig.

Hab. mid st. Long Island. (H.) Klein (Malch) Can not common Saunders

1.96 esp. a hide or  
leather

- Apatela* ♀ *clavescens*. Gmel. XLIIX/6,  
*Apatela* *rininula* Gr. 84/11  
*Apatela* *superans* Gmel. 38/23

hispida  
a hairy or thin  
fallax described false

*Syphera (Ochre) fallax* Sch. Mar 26. Bethune. To Nova Scot. Inst. 1882

Ins pl. 57  
fig. 6. Md.

Lab. Penn. Mo., Vt. (S.G.) rare London Cen. (Saunders) Nova Scotia Bethune

? what is *Syphera jocosa* of Walk. 9442 to 285 2.77 wh grove states belongs to "Moma". This is *Syphera can* (error in title or Lepidaria?)

? deno  
derides to derive  
despise

*Charatra Walk. deridens* Walk. To Fr A.E.S. 2.86 Lar. pl. 11

*Syphera deridens* Guér. Mar 26. Saunders Can Ent 2.147 fig. 17. Oak Sep. Md. 1882.  
*Charatra concreta* Walk. To Fr A.E.S. 2.86 (Lentner)

*Acronycta curvifrons* " " " 2.78 + 86

Ins pl. 64  
fig. 10. Md.

*Acronycta curvifrons* " " " 2.78

Ins pl. 63  
fig. 10. Md.

(*Lighteria dentata* Htg. to 2.78) Larva moves deep up in leaf of Oak Sep. Ins pl. 63  
fig. 36 coll. of M. Saunders Can.

Lab Cen rare (Saunders) Md (S.G.)

Food plant Oak

*Acronyctidae*. Walk. Har. Larvae live exposed on trees Schubzy. 16 legs cylindrical more or less having hairy warts on 4th 11th to mid. fore head hairy in tufts. 3rd. bristles formed antennae thorax not crested. fore wings light gray with black dark spots. Hind wings marked with a V shape wavy near inner angle. Harris

*Acronycta diazona* mut. Eng. Newman 2.68

Lar. pl.

fig. 1. f'm Pack.

*Acronycta acris*? var. *Americana* figured in the Harris correspondence (?) from Mr. Saunders.

"It is greenish brown each segment above with a transverse oval greenish yellow spot, the body is beset with a few long black bristles dilated at the end, which do not grow as usual from small points. There are no long bristles on the second & third thoracic on the 10th to abdominal rays of moves very quickly. Grows with the first part of the body bent sideways. The chrysalis was found under a log fastened to another over a few threads. The moth appeared June 28. Pack guide 305 fig. 236

{ The dilated bristles in this figure resemble somewhat my fig. pl. 9 fig. 6. only my figures have only 4 pairs of bristles dilated at the ends. The caterpillars are much shorter &c. The larvae are also quite different.

*Apata americana* L. yellow above head tail belly & feet black body covered with long soft yellow hairs growing from the skin on top of 4th ray are 2 long slender crest tufts of black hairs 2.0 to 2.5 mm. & a rough pencil on the 11th ray 1.75 to 2.00. The body fore wings light gray on fore wings a many scalloped white line edged externally with black. This is the usual round & kidney shaped spot edge with black near the outer hind margin hind wings in ♂ dark gray in ♀ blackish with faintly lined black curved band & central semicircular spot. 2.25 to 2.50

*Acronycta americana* Grote.

*Apata* (Fab.) *americana* Har. Mar 29. Har. 436. Har Cor. 3.11

? *acris*. Pl. 9 fig. 93. Grote. Amer. Ent. 1. 166. Har. note. 436. Am Ent 1. 166

Gray maple moth S. & C. American maple moth (Har.)

Lar. pl. 10

fig. 3. Md. Maple Lgh

Ins pl. 44

ATRACTUS descriptus  
ab. because the larva  
green/brown orange & granular  
inhabited is a true noctua or  
web moth. Harr.

? *parvula* Schaus & Lachini

? Am ent 1. 166

Larvae attain full size in Oct. (Man.) found also end Sept. (Md.)

Fig. 16. Coll. of Mr. Grote

Pupa formed in a cocoon of a whitish web mixed with particles of wood Nov. (Cle.)

Ins pl. 66

Fig. 16. f'm S. & C. as

end July. 2 broods made as chrysalis

Oak (Lentner 1883)

Larva spins a long half oval web of silk intermixed with the hairs of the body under it then makes another layer of silk intermixed with fragments of bark. Grows in a crevice in the bark or in crevices. An old Plant Elm Maple Chestnut Linden Poplar & Cottonwood tree ins 1. 166.

Hal. Mass. (Har.) N.Y. Md. Va. (G.) ? Geo. (S. & C.)

? *Acronycta acris*? in Harris Correspondence (var. *Americana*) Pack guide p. 305. Lar. pl. 100  
fig. 20. f'm Pack

*Aceronycta descocta* Gr. Rob. July  
Sulawesi 23 June Rob. 1945 Cab. no. 62

*Aceronycta Brunneosa* Guen. July  
Sulawesi 23 June Rob. M. S. Cab. no. 62

Xpos topy  
very night;  
afflicted  
? dashed against, spid.

*Uromysta* (Ces) *afficta* Grote Grate PESP 2 p 487

Ins pl 60  
fig 10 Ma

Larva taken on oak 1<sup>st</sup> Sep. by Mr Saunders Can Ins pl 69  
Pupa Sep 6<sup>th</sup> fig 30 coll of Mr Walsh  
Brs. June 30<sup>th</sup> (common Ma) Food plant Oak (Saunders)

Hab. Can (Saunders) Illin (Walsh.) Ma (G) 1869

Ins pl 79  
fig 74 fm Gr fig

Funer to bury

*Uromysta generalis* Grote. GGR PESP 6. p 17. pl 3 fig 8.

Ins pl 78  
fig 4 fm GGR fig

Hab. Ohio (G) Can (Bethune) Can Ent 1. 86

utula a small spear  
to bear

\* *Acronycta hastulifera* (Sm) Mar 27. SVA pl 92.

Var Ins pl 16  
fig 7 Pa Bulrush  
ang.

Larva found plentifully Va. near the Potomac river feeding  
on Bulrush. in Aug.  
Pupa formed in a cocoon Sep. food plants Bulrush & Betula serrata  
Ins. appeared. June (Gee)

*Phalaena hastulifera* of S with 3 alute  
antra also dagger moth SVA fig. 188. &

*Betula serrata*. Am Alder,  
cat yellowish green with short fine hairs scarcely white  
each pair gradually shaded into dark or black  
Moth gray with zigzag black lines from vertex to inner margin

Hab. Ma. Va (G) - Ge. (SVA)

\* Mr Linton doubt this being  
A. hastulifera

(97)

*Acronycta lepusculina* Guen Mar 27. see also *Daphne* (Gr) p 96.

Ins pl 59  
fig 12 Ind.

Hab. Can (Saunders) Md G.

now night  
vag to wander

*Acronycta noctivaga* G. PESP 2 p 436. pl 9 fig 2.

A long walk. GKE to 48. 2. 77.

Br. taken June at Coburg Can by Mr Bethune

Ins pl 79  
fig 1. Grote fig

Hab. N.Y. Pa. (Gr) Can Can Ent 171

*Acronycta occidentalis* Gr. see Psi. 1869.

Acronycta lepusculina Guen  
Acronycta pupula N.S. Riley 2<sup>d</sup> Rep. p 119. figures  
Cottonwood dagger.

Larva although not strictly gregarious when young do not scatter  
much from the branch on which they were born.

Larva of *Americana* is distinguished by its greater size, pale color,  
the hair more numerous, spreading in all directions & rather  
irregularly. See two distinct black pencils one originating near each  
end of the dorsum.

*A. pupula* on the contrary has a long straight double tuft of black  
hair on top of point 4. 6. 7. 8. 9. those on points 7 & 8. being  
the smallest. (Riley)

Ins pl 108

12 fm  
Riley fig

harmo

*Microgastrus acronyctae*:  
Larv. 30 to 40. from one caterpillar  
in a mass of fluffy silk.

*Ophion* 9 Riley 2<sup>d</sup> Rep. 1869. 120.

Cattailwood.

97

Acronycta

Inspe CXVI, fig 73. (US)

Want

Acronycta superans Guené Le Baron Rep. Sc  
Grenad chesnut backis num caterpillar. nox 1871. 51  
1/ description of A. S. food plant Pan  
that can. (Hu)

Acronycta superans Guen. Scy.  
Lentille 53 ann Rep. 144. Eat nat his 62.

morally somewhat  
like a moon.

*Acronycta morula* ♀ G.R. Tr. A.S. 2. p. 196. pl. 3 fig. 75.

59a

Hab. N.Y. (G.R.) Can. (Can. Nat. 1. 85)

Ex. pl. 99  
Fig. 3. fm G.R. fig.

oblitus smeared

*Acronycta oblitus* Guen. Mon. 27. S.A. pl. 94. Pethum. In New Scot. Ins. 2/82.  
Smeared or cotton moth G.R. Smeared Dagger. Riley Lar. pl. 9

Fig. 10. Bramble Moth

adult yellow wings  
bars on sides

Larvae spin a white web for cocoon on the leaves Nov. (Geo.) Lar. Ins. pl. 16  
Pupa formed in Sep. (Can.) Fig. 8. Bramble Moth  
Adult June (Can.) Lt. var. 2 Ins. pl. 60  
Fig. 21. Moth

*Acronycta oblitus* 3. fig. 54. 1873. (Same as *Acronycta*  
or *cottonella*)

Cotton white nocturnal moth.

front, on rear no markings  
rest of body black, underparts marked with  
white spots like marks of caterpillars over

with Johnmuon unifasciatus. Hab. Ma Va common (G.R.) Can. (Saunders) Geo. (G.R.) Apple. Riley. Am. Nat. 1881.

Alas. Riley. (Can. N.Y. say.)

Reiniger. Handwörter. Riley 3d Rep. 70

Food plants Bramble Water plants Cotton Wallace (G.R.)

Pel grass Smartweed (Riley)

Poplar wild Raspberry Strawberry (Saunders)

Apple. Riley. Am. Nat. 1881.

Nova Scotia (Benthum) Grape. Riley. 3d Rep. 70

→

*Acronycta oblitus* Parasites on Riley 3d Rep. 71 page

Hym. Schneumon unifasciatus Say.

" Ulodidae Riley. Cresson.

" Polyophtalmidae Cucaronata. Riley Mo.

Gray-dagger moth. Reed. Rpt. Fruit growers Ont. & Ontario Can. 1870. 127.

*Acronycta psi* (Guen.) Mon. 27. Malte Corse 1840. \*\* Lar. pl. 10  
" occidentalis G.R. 1851. 6. 16 { Har Cor. } in A.S. 2. 77 } Fig. 75. St. C. on Pear

later correc. \*

? Sagittaria Har Cor. " Fig. 69  
(occidentalis) Found on trunks of trees Boston May & June. Fig. 28 coll. of Mr. Walsh. Illus. (Illus. Walsh) Can. (Can. Ent.) Food plants { Cherry, Apple (Saunders Can.)  
Hab. Mass. Can. N.Y. Illus. (Walsh) Can. (Can. Ent.) Pear. 1853

*Acronycta psi* Linn. See Rpt. Fruit growers Ont. " an analogue of the European *A. psi* & is doubtfully regarded  
Gray dagger moth. Ontario 1870. 26.

It feeds on Apple, plum,

Mr. Saunders of Canada to resemble the Larva of *A. psi* which  
lays eggs on cherry & apple in Canada. - The specimen figures was however taken on  
Pear in Washington D.C.

de

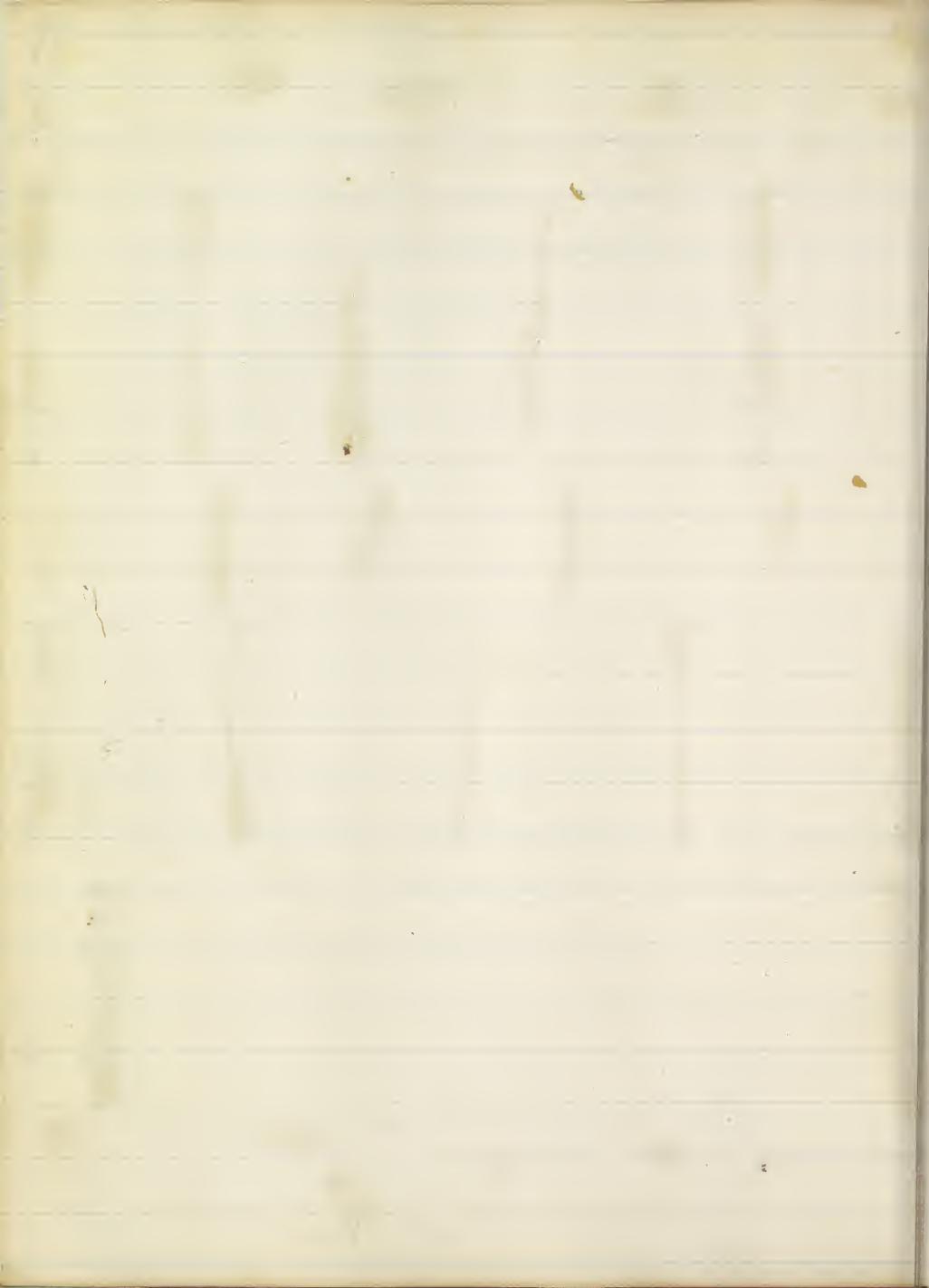
Eng. Gray Dagger moth. Newear 250.

Acronycta psi / Saunders. desc. in Rep. Fruit growers Ont. 1870. p. 127  
descri. 1. body cylindrical (2.5). long sparsely covered with whitish hairs head large belted  
black. Body bluish gray with a slate colored dorsal band having a central pale orange  
line from 2<sup>nd</sup> to 5<sup>th</sup> segments each segment with spots one in front & one behind bright  
orange & 2 on each side of a gashous metallic hue. the whole being set on a nearly  
Circular patch of rich black. 2 lateral cream colored bands along the dorsal band  
on the apical portion of the 12<sup>th</sup> segment a dull bluish spot considerably raised  
undersurface dull greenish spot black. Feeds on Horn. Bear plum &c Reed (Can.)

psa formed in a tough silken cocoon interwoven with hairs of its own body  
in crevices of bark or other sheltered places.

Its called psa from an irregular cross shaped black marks on upper wings which  
bear a strong resemblance to the Greek letter psi placed sideways situated near  
the anal angle.

Acronycta psi Har Corres p. 314. pl. 4. Fig. 12  
{ cocoon of with numerous with thin long Plum Mountain ash.  
fragments of wood of box or in polar leaf



*Acronycta ulmi* Hgr Cornif. p 319. pl 3 fig 10  
Sep. made a tough cocoon. Elm.

60

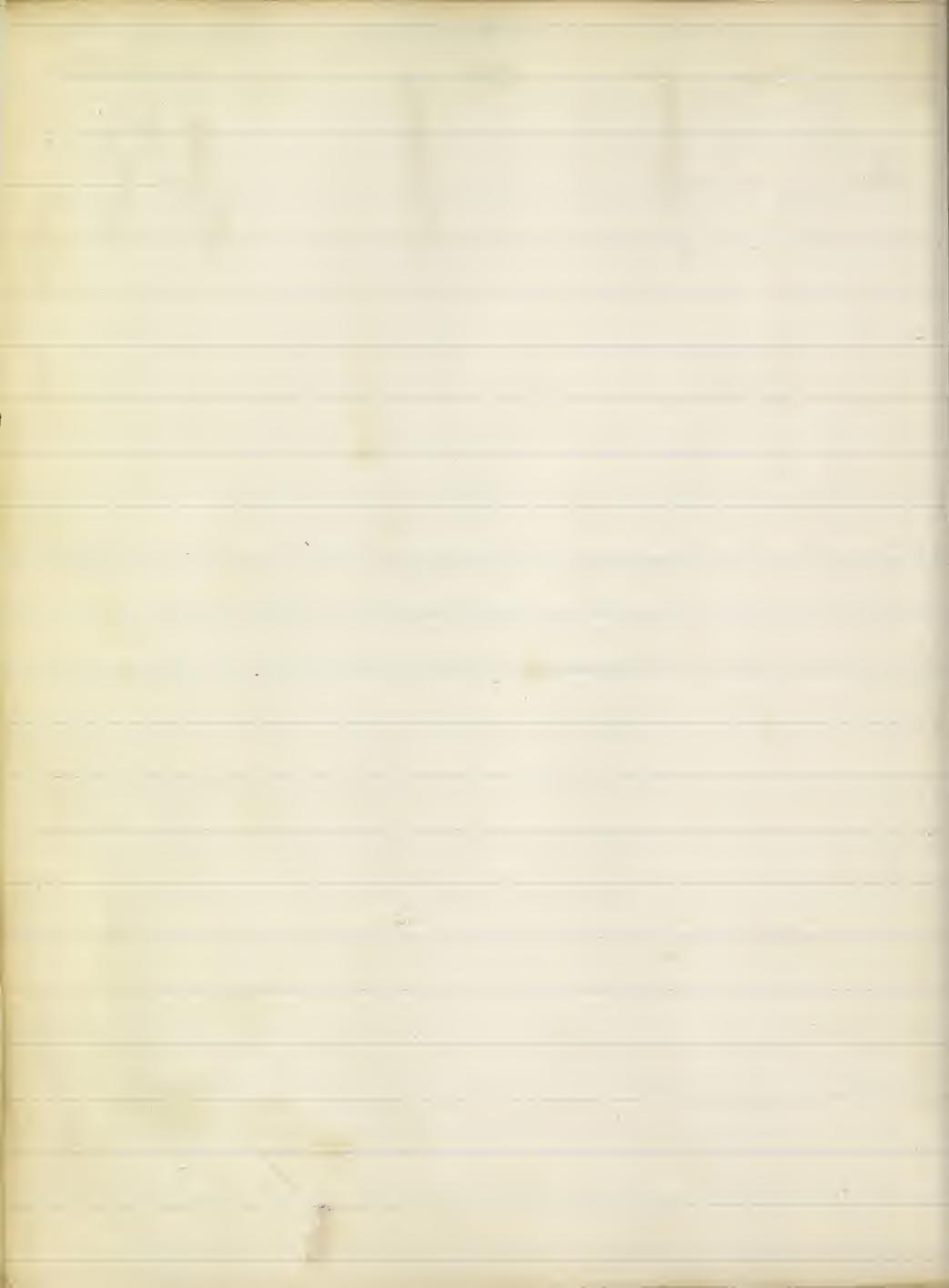
*Acronycta minuta* GGR Tr 288. 2 p 118  
*Microcælia* — " ♀ Gr PESR 2 p 480. pl 9, fig 2.

apparently rare species (Gr)

Hab W.T. (Gr)

not one n.

Ins pl 79  
fig 3. Grated fig





*Hedephila communis*, Guen

84/21

*Hedephila (Leucania) harveyi* Gr I 45/3 Ma 4 X LVIII/23  
6 XXXIV/18 Can

Ma in two or apart  
y pupa letter

*Scopelosoma*

*Dichagramma* (Grote) *Walkerii* Grote P&S.P. 2. p. 439. pl 9 fig 5.  
*Walkeri* *Dichagramma*

nas  
12-37

Hab Can mid States rare. (Grote).

Insp. pl. 79  
fig. 7. fm Grote's fig.

nas  
men

" approaches most nearly the genus *Mythimna* (Gr.)

1 M

*Scopelosoma*

*Dichagramma violenta* ♂ Gr. P&S.P. 2. p. 440. pl 9 fig 6.

rac  
3 un

Hab Texas (Gr.)

Insp. pl. 79  
fig. 9. fm Grote's fig.

Grote  
453

*Helophilula pseudorygia* Guen

*Helophilula* *Leucania* *pallens* L 111/17.

*Leucania* ? ♀ Gram clover Md Oct. L 14/13

pale color

*Leucania pallens* Mor. b.

Betham. In Nov Scot Ins 2. 1/82

*Helophilula*

Insp. pl. 53

*Leucania* f. *maculata* of England. Newman 26.

Fig. 17. Md.

Hab. Europe. U.S.? Caused not common (Saunders) Ma (J.G.) Nova Scotia (Betham)

*Leucania ostensatrix* of Nekrjebroch  
& small var. of *L. unipunctata*. Riley 2d Ed. p. 51.

*Leucania* ? aff. taken Mass. June 23? coll of W. Santorum. Insp. pl. 107  
Fig. 10

*Leucania* aff. *Leucania* n. sp. *Kolophaea* *karasogi* Gr  
Hab. NY.

Insp. pl. 107  
Fig. 11 coll of W. Madeniger  
Nov.

*Leucania* n. sp. *Helophilula karasogi* Gr Gr

Canada  
Saunders

{ *Leucania straminea* Trist. I. diffuse Walk. } I. insuetu Mor }  
} Doubtful Mor }  
*L. multineura* Walk. Mor }

Insp. pl. 48  
Fig. 3 Ma

98

*Leucania unipuncta*. Haworth. Tanners Rep't  
 departs at base of grain, fruit, groves, N.S., Ontario 1871.  
 Eggs hatch early South U.S. & N.E.  
 Larvae travel in root areas, hence name  
 Armyworm last instar caterpillar state about 4  
 weeks. P. forms in a hole eaten under  
 dry herbage or forms an oval chamber under  
 ground.

*Leucania unipuncta* (extreme) in 1861 did damage  
 to crops to the extent of half a million of dollars  
 in eastern Massachusetts alone  
 Mass. Count Report. P. & C. N.Y., 1871, 203  
 Lar attached by *Zygophlebius* 2 species of  
 tree wren plus 9c. p. 207.

*Devkaria guttata* Agardh  
it thrives hence voracity.

*Extraneous*  
strange or foreign

*Leucania unipuncta* Haw. C. & K. Tr. A. S. 2. p. 77. Fish. to N.Y. Ag Soc. 1860. Vol. 20, p. 856.  
(*Leucania* (Ochs.) *extrema* Green. Walk. Nov. 28.  
" *unipuncta* Haworth. P. B. S. P. 3. 370. Pack guide 305.  
  
Grass or Army worm of the western States  
White speck moth Haworth (European army) Fish. to N.Y. Ag Soc. 1860. 856.  
Larva Egg, probably deposited at the base of perennial grass stalks  
appear in immense multitudes in the West. It destroy  
the grass grain & other crops, hence their vulgar name  
of army worm as when one field is eaten out they  
march or crawl to the neighboring fields in search  
of food. Mr. Saunders of Canada says it is sometimes  
quite a scourge but at other times is scarce in Can.  
several that were sent from the west were destroyed by  
a species of two winged fly - Lar. State lasts about 14 weeks  
Lar. pale greenish yellow, head black, The  
Am. Ent. 1. p. 215  
Pala. 2. 5. p. 42-47.  
Lar. pale green C. Thomas  
fig. 22. in the Nest.  
Ind. pl. 61  
fig. 17. Ma.  
dk var pl. 65  
fig. 7. coll. of Mr.  
Saunders?

Paka formed just on or under the earth by a rust earthworm cocoon  
or cell of any grass. (Paca.) about 2 inches underground (Titch) remain as pupae about  
26.8 weeks.

"Said by Mr. Thomas to be probably correct. It is  
to be only one species which is probably correct." See *ibid.* p. 44.  
Aub. plentiful W.Y. East Miss S.; (Grot.) Va. Md. (J.G.) Man (Sanborn) Can (Saunders) 14 U. Col. Cal. via Board  
(Qua. in Fish & Game 1860 p. 366)

*Leucania unipuncta*. Litch T. 264 J. Soc. N. E. 1860. vol 20 p. 660  
Saws a strip the leaves & sever the heads from ~~the~~ stalks or wholly consume  
the plants of Wheat when young. When at their most their progress is at the  
rate of from 2 to 6 rods an hour. It is an many lucky place in the wild grass  
of wet spots in swamps & on the borders of marshes. & multiply much faster  
in dry season when the swamps & c. are dry & when it is thus sheltered a  
wet lawn & always swampy swamps from its lucky place in flesh, very likely  
here & there over the country. Riley Ann 27, 364 " usually produce one or two broods  
Note. "Pumpkin vines, beans, Potatoes, &c. even no injuries, see Riley 2<sup>d</sup> Rep. 30.  
Tomato & cover crops Red top very little touched, Red top all eaten Riley Ann 27, 364

*Lecanora* Pack. in Rep Ag Mass. 1869, 70-263

"the female oviposits to a large size before laying her eggs which are not protected by a scale but by a cottony secretion."

*Leucania unipuncta* Haw. in many parts of Illin 1869. Riley 2<sup>d</sup> Rep. 5. 41

Remedy. Burn over meadows in winter or very early in spring. This will destroy most of the eggs. Plowing late in the fall or early in the spring will have the same effect. Ditches will prevent them from migrating into other fields. (The ditches should be made perfectly perpendicular or even slanting a little inward) as the role of the ditches to be protected. When in the ditch they can be killed by applying fire to straw thrown over them, when already in the grain. Roll the field with a heavy roller while does may multiply.

in 1861. from New England to Kansas as  
exceed upon about one-half  
the dams are done  
in Eastern Mass<sup>ts</sup>  
alone exceeded  
half a million or  
dollars. Pach 1<sup>st</sup> man Rep. 5

6 species of *Psammophis* & one of *Sacrophis* prey upon this species. (Rock guide 305.)  
*Lycosa* (Achaearanea) *Exoplectra* *leucostoma* (Fabricius) 1965. (See Ent. 2, no. 1, p. 101. Very 2<sup>nd</sup> legs. To 4<sup>th</sup> (head narrower than thorax)  
*Laelaps* also several great numbers see fig. Colap. 9. *Juncosaurus* *giganteus* Stach. No. 145. See 1860  
*Muscicaster* *militaris* Trae Ent. 146. *Saravacoxenus* (Say) 1849. p. 868.

## *Leucania.*

*Ex orientia militaris* (Walsh) as over page  
yellow tufts *Facultas* *de* *litteris* *et* *artibus*

<sup>177</sup>  
Another species of *Exoneta flavauda* mentioned by Riley, 9<sup>th</sup> Rep. p. 57, had not  
mentioned on what insect parasitical, with head broadest than thorax &  
nearly 2c the size of *E. militaris*.

when no vegetable food remains eat each other. Mo. Ann Est 2/52  
" " " " put own ex-urine

*Leucania unihuncta* Pach 203

destroyed by parasitic *Microgaster*  
+ " " " *Pezomachus*

## Parasites over

*Lucania eximia* Amer. can. wanted math  
one specimen taken in the Isle of White. Sept 12<sup>59</sup>, Newman 261

*Urucma vulnerifica* Gr 117/11  
Leds in stalks of *Peltandra virginica* Arrow Head arum  
L Jun 20 hrs Aug Sep

Parasites in Army worms. See Riley 2<sup>d</sup> Rep. p 53. figs

\* Chalin abstrus destroying the Peromachus

(Mesochus viticus Malm. glassy mesoches. Hym.

# Peromachus minimus (Hymenoptera) Larva issue from body between on skin  
small caecae symmetrically arranged side by side encysted in a flask-like  
militaris Malm. Larvae spin in irregular masses & are so completely  
covered with loose white silk that they look like pieces of fine wool  
attached to the back of the worm. p. 53 Riley 2<sup>d</sup> Rep. & Do Ent. 1. 46. &c

Ophion purgatus. Say the female simply attaches her egg by a pedicel to  
the skin - the posterior grub does not entirely leave the egg case but  
in general the last joints of its body remain attached to the shell until it reaches  
over. With its sharp jaws gnaws into the side of the worm (Book in Riley  
Schneidman Leucania Litch. & 2 others under cutis fig 7 in  
Harris p 130.) 2<sup>d</sup> Rep. p 53

#\* Micropaster is destroyed by Glypta mundescens fig 8  
& Hockema perlulchra

Leucania ~~conspicua~~. Do Ent. 2. 118  
are brood produced in a year pupa formed underground the  
moths usually appearing a few weeks after though a few pupa do  
not transform until the following year

Arzrama (Walk) obliquata GVR. Am Leg. Part 3. 1017. & Do Am Ent Soc. 1. p. 339, pl 6 fig 47

Hab atlantic dist. N.Y. (Gr VR)

In pl 40  
fig 5. fm GVR fig

note "the genus seems allied to Nonagria." GVR. & AES. 1. 339

fig 26  
pl 27

### Opyrusitiae Guén

Gortyna (Ochs) cataphracta Gr-de P&SP 3. 81 pl 3 fig 8.

a delicate species with the habits of G. nebula Guén (Gr)

In pl 70  
fig 10. coll. of Mr Grote

Hab East & mid States. (Grote)

Gortyna Ochs  
name of city.  
Cataphracta armed  
with sharp points

irregularly colored  
with white

Gortyna cerasostata Grote. P&SP. 2. p 432. pl 9 fig 1.

In pl 70  
fig 10. 8 fm Mr Grote, fig  
In pl 107  
fig 3. coll. of Mr Sanborn, Mass.

Gortyna leucostigmae Guén Mon. 28. t. 10. sp. nov.  
caterpillar brown with white spots. G. cerasostata Gr-de p 224?

White spot Gortyna

Harr

Larva burrows into the stalk & devours the inside of the  
roots. July Mass.

In pl 67  
fig 3. Mass. coll. of  
Mr Sanborn

Hab Mass (Sanborn Harris)

### Food plant. Columbine

1. 25. L. whitish with a few black dots on each of the major  
veins brownish top of first & last nerve whitish

2. Any  
L. dark brown margin yellowish speckled with  
purple brown dots the broad bands & butte red and margin  
purple brown; distinct transverse yellowish streaks between brown bands  
by a row of faint yellowish streaks between brown bands  
& 3rd at base of each lobe. The last nerve  
black with half buff or yellowish white with central  
spot white behind it of a brownish color near

the base  
on thorax having yellow with brown tipped edges  
of coxae & shank deep colors brown.

Varicels larger & with 3 or 4 white dots esp.



*Gortyna nitela*  
is names of a  
color or squirrel

*Gortyna nitela* Guen Grot P.E.S.P. 2. 482. Riley Prairie Farmer Vol 19. p. 116. Amer Ent 29.  
? " " nitella Mor Cat 283. Stark's Lepid. of Riley 1st Rep. p. 92. Pack guide 310.  
Eggs. hatch July.  
Larvae live in the stalks of various plants & destroys them by  
eating away the pitch the caterpillars leave the stalk in July  
I go into the earth a little distance below the surface  
Pupa formed in the earth remarkable for having a hairy bunch  
Insect makes its appearance about the latter part of August  
or the beginning of Sept. The female probably hibernates (Riley)  
in holes it  
this Larva <sup>also</sup> <sup>met?</sup> by Harpi. 440 } as being into potato stalks &c  
Food plants <sup>(in stalks of)</sup> Dahlia, Aster, Potato, <sup>on</sup> Wheat maize.

Hab. Illin.

\* Extract from letter "June 26. 1867." "on the largest stalk you <sup>will</sup> notice the hole where it <sup>has</sup> <sup>been</sup> <sup>no 2. p. 42</sup> entered - that is generally in the thin part from the root & they eat through each joint to the base  
They are also at roots on the corn" "S. L. Hargess Chancery Co. Mo."

*Gortyna nitela* Do Ent 2. 115.

L. Spindle worms.

Pupa remarkable for having a pair of slender thorns <sup>horn</sup>  
vertically arranged about 1/16 inch long which the insect  
when alive has the power of opening and in the form of an  
inverted V. or of shutting up so as to appear like a double  
thorn. This arrangement is no doubt useful in enabling  
the pupa to work its way out of the constall with more  
facility - Walk thinks the perfect moth hibernates  
& in spring lays the eggs for

*Gortyna nitela* Guen. Lebanon novem. R. Rep 2.

L engine wheat by being in snow

*Gortynce appassionata* Harvey 96/14 Can

nutlets golden  
or glittering

*Gortyna nitela* (Guen) Mor. 29.  
cubay

Leaf Ma (29)

Note this figure resembles *Gortyna* of British Museum but the author states it does not compare  
with Guen's fig.  
See pl 91 fig. 10. *Gurjuria fascia* Gr. n 425. 1. 341. pl 7. fig. 5. which it resembles very much.

most beautiful

*Gortyna speciosissima* G. 812. Do A.E.S. 14. 343. pl 7 fig. 52.

Lab Atlantic Dist. Sekantz P.D. G. 812.

" perhaps the largest North American representative of this species" Gr

Do pl 91  
fig 8 fm G. 812. fig.

66a

retic. skin of a red deer

*Gortyna nitens* Guen Mor 28.

Insp. pl. 48.  
fig. 7. 35nd.

Hab. Ill. (Mor) Md 28

W. var. Ins. pl. 38  
fig. 11. 35nd.

purpura purple  
fuscum stripes.

*Gortyna purpureifascia* G.R. Am. Spt. p. 3 p. 19. & Z. A.E.S. 1. p. 341 pl. 7 fig. 51 ♀

Hab. Atlantic dist. Mass. (G.R.)

Insp. pl. 49.  
fig. 10. from G.R. fig.

"allied to *G. nitens* Guen but more fulvous colored & distinct in the form of the transverse posterior line & in the shape of the reniform spot." G.R.

? inquisitor  
searched for. ?

*Gortyna inquinata* G.R. Z. A.E.S. 1. p. 344.

Hab. Atlantic dist. N.Y. (G.R.)

resembles *Hydracia lorea* <sup>W<sup>99</sup> superficially but readily distinguished by the very distinct angulated median shade & the lower accessory ordinary spots.</sup>

*Gortyna marginidens* Guen. & *lunifolia* Mor 28. Z. A.E.S. 4. p. 325.  
var. *lunifolia* G.R. (1878. 4. 225)

G. lunifolia. Saunders list Mor 0.

marginalia a margin  
dew - look

glares. agate

scale of the corn.  
or maize

Achatiades (G.R.) scale. Har. Grote P.E.S.I. 3. 574. & 4 p. 325. Pack guide 311 Ins. 2.  
*Gortyna* scale Har. 149. Mor 28.

Achatiades sandex Walk. Guen & H.S.C.B

Corn *Gortyna* or Spindle worm Har.

Insp. pl. 41

fig. 12. coll. of M. Grote.

most often appears like mottled, but when examined with a glass with a few hairs it is easily seen that each scale system on head top of first few rows being black with a white row of small smooth slightly elevated dots along each of the other rows. 1800  
"Achatiades" in a burrow made by the *Thrinax malabarica* larva. Found in Elder leaves when young & tends to eat into the corn stalks, penetrating to the soft centre 10. Found in Elder June. See July. pupa  
first wings showing & more rounded - rest red, mottled not always in head vicinity with the ordinary May also grey & undivided elongated larva that makes the scales stand out like a yellowish orange dot. Found in a burrow made by the *Thrinax malabarica* larva. Formed in the burrow made by the larva in stems of very much my own  
leaves but on back.

Corn scale (Saunders) Food plants, *Mitchella* Elder

that Mar. Harr.

white water  
when house.  
met to wind

*Hydracia* (*Guen*) *nictitans* (Graub.). Mor 29 Betham W. Nov. Scot. Inst. 2/82  
? *Baptisia*.

*Hydracia* *nictitans* Ear moth of Neomex. 380

Insp. pl. 61 fig. 11. Md. <sup>W. 13/20</sup> ~~not~~ any thistles

Hab. Md. (G.R.) Man. (Saunders) not uncommon Cao. (Saunders) Nov. Scot. (Betham)

Insp. pl. 65 fig. 12. coll. of Mr. Saunders

*Hydracia* *lorea* Guen Mor 29. Betham W. Nov. Scot. Inst. 2/82

Insp. not uncommon in Canada (Saunders) Insp. pl. 82

fig. 7. coll. of Mr. Saunders Can

Hab. N.W. (Mor) Can. (Saunders) Nova Scotia Betham

? lenses made of  
leather.  
or Lora Lenses.  
a small thin wire



sona a bar or bolt *Hydrocacia* sera. G. H. B. Tr. A. E. S. 1 p. 345. pl. 7 fig. 55. 5'

Cat. No. Pa. Can. (GVRP) Can. Can Ent 1. 85.  
"readily distinguished from *H. mutinensis* & *longa* by  
its darker color, the shape of the reniform spot. &  
excavate fringes" GVRP

Ins pl 91  
fig 6. fm 9412 fig

? strawberry  
Straw or stubble

*Cyrtococcia stramineoseta* Guen. *Can. Idaea*. 4 rugat. Saut. *Can.* *Idaea*. 29.  
" *Erythranthes* <sup>no</sup> *Immanis* (Guen.) *Salicarum* Doudet. <sup>no</sup> *Mor. Cat.* 29.

(99)

Xylophasedes aplaniformis Gaean Tane  
Lentulus 23 ann. Rep. 114.5 Cal. nat. hi. 12.  
after nephelogy.

Xylophagedes curvipes Grote  
Ins. 1886. 3. fm coll. of Mr Grote

very pale?  
minimum  
vermillion

*Nephelodes* (Guén.) *minians* Guén Mor 38 Bethune Tr Nov Scot Inst 2/82  
*rubrolens*?  
*Graphiphora expansa* Walk. G.R. fig 28. 2. 78.

Ins pl 60  
fig 25. Md.  
96/22 Can

Hab (Ma) GB Nova Scotia (Bethune) & Can

rusty

*N. rubrolans* Guén } *N. signata* Walk. Can. (Saunders list) *N. violans* Guén (Mor 38)  
 Nat Nova Scotia.  
 Bethune

Under wood:  
green appearance  
apart from again  
wood color

*Xylophasia* (Stephens) *agricolora* (Guén) Mor 30. Bethune. Tr Nov. Scot Inst. 2/82  
 Haldene. Mor.

Ins pl 82  
fig 18 coll of Mr Saunders  
Can.

Hab. Can (Saunders) Nova Scotia (Bethune)  
*Xylophasia* unicolor. of Newman 284

common

*Xylophasia vulgaris* G.R. P.E.S.P. 6 p 18. pl 3 fig 2. ♂

Ins pl 78  
fig 6. G.R. fig

Hab Miss St. (G.R.)

\* said by Walker to be allied to the European *X. polygona*. (G.R.)

*Tylorrhasia agnus-dormia* Guén  
*Hadena continua* Walk. G.R. to A.E.S. 2. 78

*X. verbascoidea* Guén. *X. indocilis* Walk. *X. lateritia* Esp. Saunders list Can.  
 Mor 30 " Doubtful Mor 30 " Nova Scotia (Bethune)

*Scoliocampa* a curva  
exapti caterpillar

*Scoliocampa* Guén. legni Guén Mor 38.

of wood

Larva found in rotten oak wood Mt. Iany.

Ins taken June & July Ma

Gar pl 18  
fig 18. Md. oak, jay

Ins pl 48  
fig 14. Md.

Hab Geo (Mor) Ma 38. Ford rotten Wood Oak.

Ins pl 50  
fig 11. Ma July.

Note. placed directly after *Nephelodes*. Mor. ought it not to be placed near *calocampia* p. 106?

*Phalaena phytolacea* fig 84. X. 193.

Poke weed moth.

Virginia poke weed.

*Phalaena deauraria*.

black with longitudinal stripes of yellowish red.

sparsely striped more yellow.

more or less brownish with darker streaks light colored margin.

can this be the same as my figure on the cotton?

) phytolaccaceum. Mor 39. S.Y.A. pl 97.

Cat. 39. 38A.

thk. 38A.

went into ground July 5th (Geo)

opened 11 July (Geo)

Lar. pl 10 fm S.Y.A. fig

Ins pl 66

fig 5. 6. fm S.Y.A.

placed in Morris 39 directly before *Laphygyna*.

Food plants. Poke weed?

*Phalaena rugifera* fig 83. X. 191.

Common buckwheat. India

Guinea corn grain.

Cater. greenish and longitudinal yellow. Infused

by green beans, made into a poultice and applied to the wings under

ways white colored doctor toward morning

(the moth is very similar to the *Graphiphora* or army

worms etc south but S.Y.A. figure act too light, looks

like it is the same, the food also is similar (See my figures 8)

can it be the same?

the caterpillars also resemble the army worm in many respects

can it be the same?

the food also is similar (See my figures 8)

can it be the same?

the food also is similar (See my figures 8)

Guén. *Graphiphora* Sm. Mor 39. S.Y.A. pl 96

alternating with *Phalaena* 38A

now moth. S.Y.A.

ste. the. grounds July 15. th (Geo)

ad July 27. th (Geo)

Food plants. Guinea corn, Grain, Wheat, S.Y.A.

Gar pl 11  
fig 4 fm S.Y.A.

Ins pl 66

fig 11. 12 fm S.Y.A.

Hab Geo. S.Y.A.

Note. very closely allied to the following "I. macra" which was also taken in Geo."

"I. macra" very similar in habits S.Y.A.

(100)



meca can. barren

Laphrygma <sup>frontal view</sup>  
macra.  
? Laphrygma Saunders <sup>lil</sup>  
? L. frugiperda S. & G.

Mo. O.

(names from British museum Spec.) Pack guide 313

Georgia Grass worm, Army worm or caterpillar I.O. Ag Rep. 1855 p. 77.

Larvae found in immense numbers in the cotton fields of Georgia feeding on the grass & weeds between the rows of cotton these caterpillars are seldom if ever known to injure cotton seriously & have frequently been mistaken by the planter for the cotton army worm *Anomis xylosteana* p. 117, which does so much injury to cotton alone this caterpillar <sup>Inspe 18</sup> Fig 5 Geo. may however be readily distinguished from the destructive species by its crawling motion when proceeding from place to place & not looping or bending its body as is the habit of the *Anomis xylosteana*. When these caterpillars are kept in confinement & not well supplied with food they eat each other. Pupa formed in an earthen cocoon under sods stones &c. Insect appears a week or 14 days after the pupa is formed.

This is probably the same as *Prodenia autumnalis* of Riley <sup>3<sup>d</sup> Food plants Grass, Y.  
or a similar variety Cotton (very sparingly)  
Hab. Geo (Fl)</sup>

note. Mr. Lintner writes that pl 19 fig 18. is not macra. although the other specimens were named from Sp in the British museum. may this not after all be the *L. frugiperda* of S. & G.?

*Laphrygma cornuta*  
*Prodenia autumnalis* Riley Ann Ent & Bot 2 p 363 fig Riley 3<sup>d</sup> Rep. 119.  
" Daggyi. Riley Ann Ent & Bot 2. p 45. 4 (329. fig Lar)

Daggy Corn worm. Fall army worm. Riley.

Eggs deposited in small clusters often 2 or 3 layers one above the other the whole cluster being covered sparingly with the yellowish hairs from the ♀ abdomen. on leaves.

Larv. Congregate together - very destructive to nearly sown wheat in Mo. (but said also to leave blea grass unbroken) I found also on

→ parasite *Archipspurpurana* Riley 3<sup>d</sup> Rep. 116. Macr. where it not only eats the leaves, but also eats into the heart of the plant (As P. Daggyi) it is also said to eat holes

→ parasite *Rhyacophila* through the ears burrowing in them in every direction Exuvia leucanica & *Rhyacophila* is frequently found in the same ear as the *Hedotis annulipes* *Tachina arachnophaga* <sup>150</sup> that young worms readily devours the leaves of peach & Apple trees

Pupa formed in the ground without cocoon.  
Ins. extremely variable indeed so variable that three species might easily be fabricated by any species grinder who happened to capture at large the three most distinct varieties without knowing anything of their transformations. Riley 2 or more broods in the course of a year

Gran. Wheat Oats Rye <sup>3<sup>d</sup> Food plants Maize Wheat Tomato Turnips Potatoes Riley 111 Apple Peach.</sup>

The Larva resembles my *Laphrygma macra* pl 18 or southern grass worm & the pupal fly also is very similar in Fig 5 appearance - (note the underwing in my figure ought to be white) <sup>100</sup>

L. J. pl 108 fig. 15 Riley

*Mamestra puncta*. Kar. Battine Rep. fruit growers  
Ass'v. Ontario 1871. 85  
Larva caterpillar  
lays eggs on tobacco bus  
tobacco disturbed coils drop to ground  
web 2 broods annually  
Cabbage Cauliflower Spinach Letts Cabbage  
when young gregarious but when older  
separate field singly  
the fall brood feed on flowers of Aster for  
of strawberry honey-suckle magnolia  
Alpinia Cloves Lams quarts

new marked

*Laphrygma unisignata* Doubled. Mor. 89.

75

In. near London Can common (Saunders) Ins pl. 82.  
fig 19. coll of Mr. Saunders Can

Hab. Flor (Mor) Can. (Saunders)

Prodes to march  
or come forth.

Coumelinea, (plant)

*Prodonia (Linn) commeliniae* SVA. Mor 89. P. C. Ag Rep 1855 p 162.  
Hobson Bds. Mor. Am Ent 92 p 339 (24936) Lar pl. 14 fig 5. Sta. Sch.

*Commeleina* or Wild Convay moth SVA Spiderwort Owlet moth Riley Lar pl. 19 fig 19. Cotton bollis

Larva very destructive to the fruit of the Tomato. Washington DC 1887. Mor 19. Pla

juvis also in cotton bolls in the same manner as the boll worm. Lar ins pl. 16

*Heliothis armigera* (p 109) (Ge) Unknown kept in confinement very difficult to rear as the caterpillars frequently die, apparently from overfeeding - their bodies being very much swollen & when dead emitting a very unpleasant odor.

pupa formed under the stones or earth

Ins - appears 10 Sep Ge.

fig 5 cut cotton  
leaf, Aug  
dead fruit  
Tomato no

Convay wild

Food plants *Commeleina* or day flower, ground fig 30

" " (fruit) Tomato. (bolls) cotton. Cabbage

Hab. Fla Ind. Va NC (TG) common  
Can. (Saunders) Geo (SVA)

Mistletoe in ear.

*Prodenia commeliniae* Riley Am Ent 1834. 2. 363

Larva, never congregates in multitudes as does the all flying worm  
*Prodenia autumnalis* Lar. also perfectly smooth & no hairs in Riley fig 2829,  
whilst *P. autumnalis* has 2 or more bristles on each segment of body.  
& resembles very much my fig pl 18 fig 5 of the Southern grass worm.  
*Laphrygma macro*. pl 18 page 100. - the underwings of which are light & not  
dark as in fig

The perfect insect of *Commeleinae* may also always be known by the tips of the wings  
being more prolonged & acuminate & the forked process near the middle of  
the wing being much more conspicuous than in *P. autumnalis* Riley

2.00 Flight yellow with 3 longitudinal black stripes,  
one on each side, & one on top of back, heavily black  
tawny, full rose Oct.  
B. shining brown. Hibernated under ground.  
most prod. 2 broods. 1st June 2nd July. Main in Pa.  
C. white, with black dots, black lines, the anterior  
dots on fore wing & 3 on each hind wing round eyes.  
Edged with gray. A transverse zigzag gray line  
forming N in the middle near outer hind margin.

75  
Mamestra antennae simple, forehead  
densely covered thorax with a bifid dorsal  
exuv. fore wings not dentate. Subdorsal  
ridges. 95.

Doris unicolor, agassiz  
Lat. name. *Paracimica exusta* (Coll) (Grau) Am 942 & A.E.S. 2.75 Bethum to Nov Soc 94 2.72 Lar pl. 10  
painted

*Mymatona costaricensis* Walk. G.R. 7.4.82 2.77 syn. *C. exusta*) Lar pl. 18  
Painted Caterpillar. moth. Painted Mamestra lar  
Larva lives exposed on the leaves when disturbed coils its body spirally, feeds on Cabbage Cauliflower &c. June. or

body spirally, feeds on Cabbage Cauliflower &c. June. or  
Pupa formed under ground. Oct.

Ins. common Md. (TG) Can. (Saunders)

(*Ruta* *baga* Poell.) Food plants Beet. Cabbage Cauliflower  
Clover flowers Plantain Spinage

Hab. common Can (Saunders) Mass. (Sanborn)

of garden vegetables in general.  
C. Cranberry (Lubin) 2. our ins 14.55  
Castor. (Poek) fig 1. Mid.  
Honey locust (Magnolia) *Acacia* (Acacia) family  
Riley 27. 11.

*Mamestra picta* Riley 20 Rep 112.

Lar when young gregarious but when older disperse & attain full size in about  
a week. 2 broods annually.

Pupa formed in a rude cocoon just under the earth formed of silk hairy grains of  
soil or earth together.

Spinach, beet, confine themselves to cruciferous plants as cabbages beet spinage &c

Fall brood collects by hundreds on heads of flowers of Riley on Strawberry &c

100

111.

§ CXV. *Mamestra dubitans*, Walk. Aug  
B. Lintner 23 Ann Rep. My S. Sab. Natl. his 62.

*Mamestra* Oehl. *lonea* Guen - I. 65/1. fm Sanborn

*Mamestra leucogramma*

Ins. pl CXVI. fig. 5. fm Coll. of Mr Grate

*Mamestra nimbosa* Guen 106/22

*Mamestra adjuncta* Bois, Oct  
B. Lintner 23 Ann Rep. My S. Sab. Natl. his 62.  
*Lactuca* *Polidago*

*Mamestra Ochs Landabili Guen*

74/4, Im

- Wadrena arctia*  
*Mamestra arctica* <sup>Br</sup> H. Sch. Guen Mar. 2p. MacR. Guide 312, Betham & Keble Ins.  
*Hadena angulatrix* Fitch <sup>16</sup> Gr. & R. P. E. S. P. 6. 18. pl. 3 fig. 1. Mor. 38. Ins. p. 52. 2/82  
*Hadena amœba* Har 450 Fitch. 7. N.Y. Soc. 1855 v. 15. p. 508. Fig. 20. Ma.
- egg, deposited June 19 Can <sup>Can</sup> Ins. 2/82 { *Amputating Brocade Moth*. (Fitch) Barrett arches (Har) Ins. p. 27. Fig. 30. Wilson N.Y.  
 Can Ent. 2/82 } *Mamestra* <sup>one of the most common Moths near London Can (Saunders)</sup> <sup>Can Ent. 2/82</sup>  
 Lar come out of the ground at night & climb up the stems of plants  
 to devour the leaves, but conceal themselves in the ground  
 before morning & cut off leaves of roses & other shrubs. Other young shoots  
 of Currants, late in May N.Y. Fitch (Pack guard) L. description Can Ent. 2. 75.  
 Pupa formed underground in an earthen cocoon.
- Food plants Garden & herbaceous plants  
 vegetables Currant Rose &c. <sup>{ Noct. &c</sup>  
 Hab. Mass. N.Y. Md. Va. (S.G.) Can (Saunders) Nova Scotia (Betham) <sup>Grass.</sup>  
 Can Ent. 1. 75.

*Mamestra Bridghamii* Grote P. E. S. P. 6 p. 17. pl. 3 fig. 1.  
 Bridgham's Mamestra

Hab. Rhode Island.

Ins. p. 18  
 Fig. 1. Grote's fig.

allied to *M. artica* (Bdw.) *Hadena angulatrix* (Fitch) but much smaller, paler &c Gr. P. E. S. P. 6

*Mamestra* n. sp. Saunders Can.

Ins. pl. 82  
 Fig. 23 coll. of W. Saunders

Hab. Can (Saunders)

*Mamestra brasiliaca* Linnaeus M. abjecta Huf. { *M. dubitana* Mauk,  
 " " Guen Mor } *M. dubitana* Mauk,

, M. Contula Bo.,  
 " " Saubka, Mor.

*M. incrocea* Walk. ? { *M. inexpectata* Walk.  
 " " Saubka, Mor } *Okamia marginata* Walk.  
 G.R. & A.E.S. 2. 78

*M. microcera* Walk.

*M. microcera* Walk.

*M. displicens* Walk.

*Mamestra adjuncta* Walk. (Guen Mar. 30)

9 55/15. Ma

— Ins. fm Mr. Sanborn Mass.

Ins. p. 106 all &

Hab. Can. (Saunders) Nova Scotia (Betham)

L. on Solidago <sup>Fig. 14</sup> <sup>M. Sanborn</sup> <sup>Can Ent. 1859.</sup>

*Apanaeus rufipes* Gmel. Linnae 23d Ann Rep 1793  
Cabinet Naticis. 62  
after Apanaeus manicatus.

*Aptamea* prop. name  
finitima  
bordering upon or  
allied

*Cadena*

*Aptamea* (Ochs.) *finitima* Guén Mor 32

Hab. NY (Mor) Mass. (Saunders)

Insp pl 65  
fig 4 coll of Mr Sauborn Mass.

legitimate

*Mamestra*

*Aptamea legitima* Grote 3<sup>rd</sup> & 8<sup>th</sup> sp. 3 p 82 pl 2 fig 4.

Insp pl 67  
fig 6 coll of Mr Sauborn Mass

Hab Mid & East N. common (Gr.) Mass. (Saunders)

Canada  
Saunders

{ *Aptamea medica* Guén } *A. insignata* Walk. *A. glaucoveria* Walk.  
*Aptamea subcedens* Walk. Mor } Doubtless Mor }  
G.R. 2 p. 78 }  
*A. velata* Walk.

*A. rubrescens* Walk

Max 275  
flat.  
limous  
ash colored.

*Piacodes* (Bda) *cinerola* Guén. Mor 32.  
? *Micania atomaria* Brit. museum

Insp pl 60  
fig 23 Ind  
Insp pl 61  
fig 24 Ma

Hab Ma (JG)

pair w to spot speckle  
or stem  
under a w wave  
fero to bear

*Micania* (Walk) *undulifera* Doubtless. Mor 39.  
Walk. Saunders last.  
*Erastria rugitula* G.R. To A E S 2. p. 78.

Soc Erastria rugitula p 110.  
pi 55 fig 6.  
4 pl 69 fig 22. }

Hab Can (Saunders) Flor. (Mor)

*Micania undulifera* is struck out of Can. List (Can Ent 1, 71)

*Micania* (Minors of England) Newman 308

*Egrotis* cut worm remedy  
probably pretty a tree or "walled enclosure"  
around the plant to be protected would suffice  
as a corresponding state in the Am Nat VII. 372  
that in an experiment tried by him the cut  
worm never crawled over the soil or enclosure  
but rather is found near trying to get at the  
plant *Lantana* known to not climb to the  
top it invariably descended by the antivine.

*Mamestra*

*Claena* (Steph.) *herbacea* Gies., Mor. 39. Riley Prairie farmer. Vol. 19, p. 104  
 " *nemoralis* Stephens  
 Figure 8 minor con name. Riley 1<sup>st</sup> Rep. 86., on small white bristle Cut worm Riley  
 Ins. very common in Maryland & is attracted into rooms by  
 the lights in the evening, said by Mr Saunders to be  
 also very abundant near London, Canada

Bethun Fr Nova Scot. Inst. 2/82.

Sup. 53  
Pg. 16 Med.

Cab. Md Va (T&G) Can (Saunders) Glen (Riley) Nova scotia (Bethun) food plant Cabbage herbaceous plants.  
*Celaena contractans* Walk. Mor. 6. Saunders list Canada  
*Celaena punctifrons* (Walk.) Gies. Fr A.C.S. D. 78.  
 syn. *indutella* (Walk.)  
 syn. *semipuncta* Walk.

Next - 121 Oct. 10

Noctuidae ~~hollowed~~ body robust, antennae almost constantly simple being rarely pectinate or ciliated in male. Thorax stout often crested, wings of moderate size with strong nervures generally with peculiar ear shaped spots on disc of fore wings, mouth well developed the labial palps or maxillae being greatly elongated wings in repose ordinarily depressed at the sides of body. Labial palps of moderate length terminated suddenly by a small or slender point clothed with scales rather than a woolly coating, abdomen of an elongate conical form rarely so robust as in *bombycidae* Westwood vol. 2

Surface caterpillars Curtis. (Cut worms) Noctua. (Mamestra)

"The most certain means of getting rid of these troublesome caterpillars is to look over the plants carefully & destroy them; and as they frequently hide themselves by day under the earth when they are in their last skins the search might be more successfully pursued at night when they come forth to feed." Curtis 115.

*Agrotis* " 1/2 oz of salt dissolved in a quart of water poured over the plants taking care not to let any run into the hole, saved the plant. It caused the worm to leave other plants mixed with this solution were also saved until a heavy shower of rain fell, which washed it off. 123. Curtis

dig them out. 124

Roots useful

To save water will kill them if it come in contact with their skins. 125

"Laying dry soil 1 inch thick over the ground & digging it in" soil is very offensive to the surface grubs 127

"Quicklime when the plants are wet will have the effect of destroying the larvae when they come forth to feed." 128

Major recommends 1 lb of soap to 10 gallons of water applied warm until it runs into their burrows which will cause the worm to crawl out of their cells with their heads upwards where they will stand paralytic clearly as if they were killed however in 10 or 15 minutes they will recover & retire into their holes again also

Surround the seed plot with a row of cabbage, cauliflower &c for a trap.

But over the plants with quick lime when wet

Search at night when they come out to feed  
 Look carefully beneath the leaves by day. 116.

Salt water poured over a turnip plant at the rate of 1/2 oz of salt to 1 quart of water drove the surface grub away but it proceeded to another 6 yards off they can travel well & expeditiously especially at night when the ground is damp during 10 days other plants were attacked with that solution those thus preserved but when devoured turned they shared the fate of the others

Curtis' 167  
 Children might readily kill them from the root with a sharpened flattened stick or oyster knife."

Patch 171

Noctua  
 caterpillar said to be destroyed by *Anthonomus*  
*Pedicularis* (Eriophyse) & several as food of *Prionopeltis*

Cat worms corn soaked 48 hours in a solution of chloride of lime & copper. Am Ag. 1861. 185.

Cat worms - make several smooth holes in ground with a round stick about 3 or 6 inches deep & examine every morning for the worms which have fallen in & are unable to crawl out.

105

*Agrotis atrofascia* Gnato Bull. Buff. Soc. Nat. Sc. 1. 97.  
Ins pl. CXVI. fig 11. fm Coll of Mr Gnato.

*Agrotis auxiliaris* Gnato Bull. Buff. Soc. Nat. Sc. 1. 96.  
Ins pl CXVI. fig 15 fm Coll of Mr Gnato

*Agrotis annexa* Deutsch 46/11.

A

*Agrotis ypsilon* Hoffm. 55/20. Md Cammo

W43. *Aplopsyllus glaucostictus*. cut worms. 4342  
smooth horizontal fore wings, tritomolyphorous entire  
body ascending, antennae & peduncles thorax  
not crested  
& smooth shiny naked & dark

**S**ome shrubs naked & dark red - in with longish hair & blackish wings & 2-3 seeds  
in each wing - some have also a brown wing  
black spot at top of first seed  
of which the round whitish material contains  
dark red live in the ground but for most  
of plants come up at height - cut it down  
the border shrubs - come up from the ground  
of all kinds of herbs & grasses & of various  
plants. I come out from 7' high & about eggs  
in the ground in bushes hatching in autumn.

*Agrotis* for cut worm - Im Ent 1. 3/16.

Remedy a hole dug by the side of a plant - so that when the cut woman in his efforts to reach the plant will fall into it. (Am. Inst.)

have seen holes made with sticks in a ~~wooden~~<sup>wood</sup> manner & that the bottom sides were round from the bottom like an hour glass and for a ~~semicircular~~<sup>semicircular</sup> purpose these holes are made by thrusting the stick deeply into the earth & then working the upper end of it around, fig.

*Agrotis*  
*segetum.*

The Royal Academy of Sciences in Sweden, directs the eighth of a ton of lime to be taken to a ton of wheat it is to be spread out and well beaten into it that the seed may be thoroughly mixed with the lime. The mixture is then to be put into sacks tied firmly together laid in the barn under the straw where it must remain three days to allow the wheat to be thoroughly heated the sacks may then be opened the wheat sown in calm weather together with the lime.

Kollar remarks that this remedy may serve equally well to keep off the caterpillars from every sort of corn particularly as it is recommended to scatter lime in the field at the time of sowing.

time in the field, at the same time as the heat in which can the caterpillar  
can hardly escape its corrosive qualities Lölle

Agroter  
triticī

- 3 Applying a strong dressing of lime to the land in the spring or watering the fields and meadows with lime water in damp weather and strawing the ground with ashes, such as lime ashes, coal, peat, and turf ashes.
  - 4 Rolling the field with heavy iron rollers.
  - 5 Driving large flocks of sheep over the field

Noctuidae.

*Agrotis*, male moth with feathered antennæ  
the feathering however quite short Proc Ent 1. 85-

Bethune Dr Nov. Seal Inst 2/82

. Fig 11

Mdc  
Cm

*Agrotis (Uchus) jaculifera* Guén.

Dingy cut worm Riley

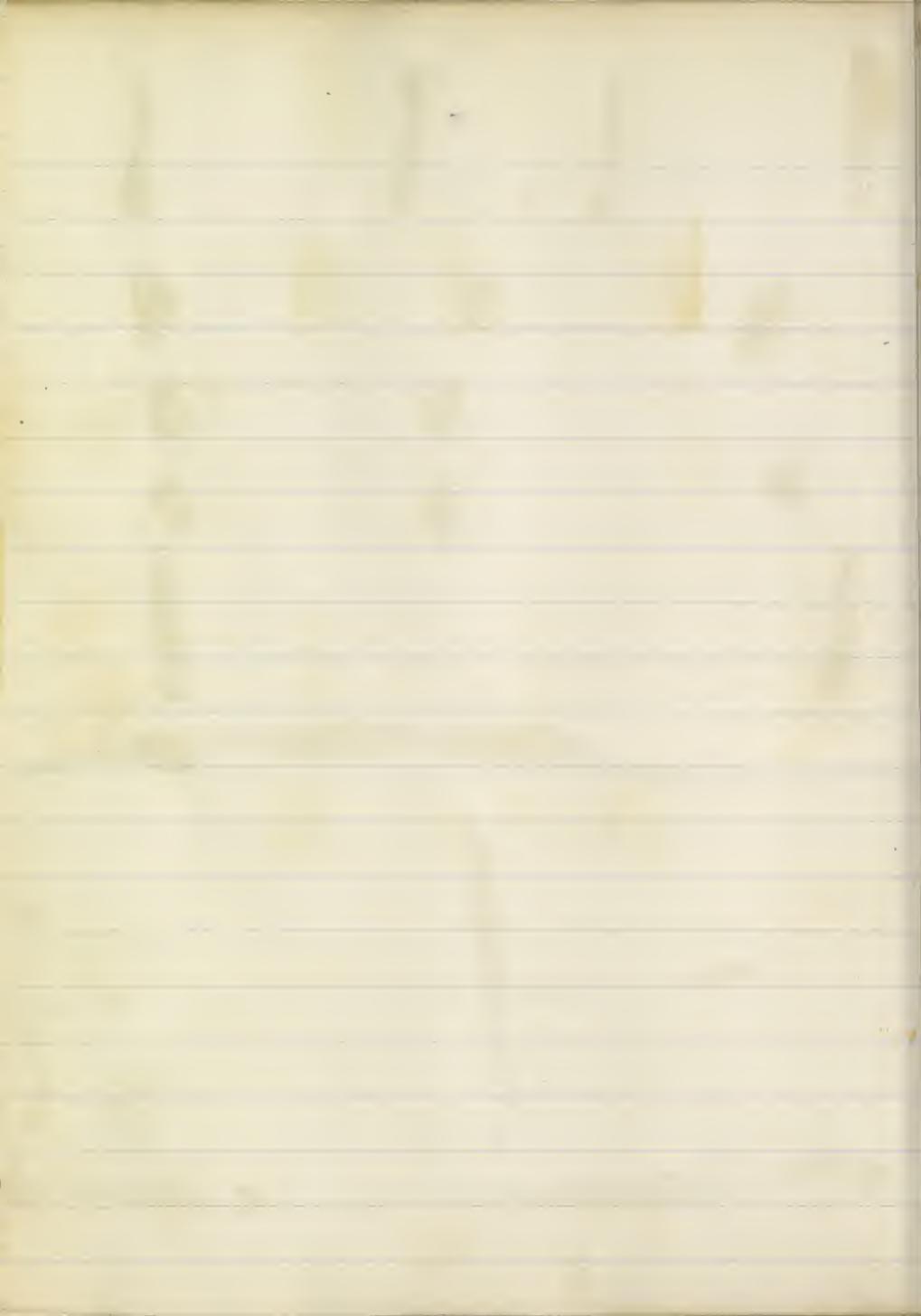
## Food Garden & herbaceous plants

*Hub Ma Va (Sg)* London Can. common (Saunders) N.Y. (Mor) Nova Scotia Bethune  
*Agrotis* destroyed by dagger warp *Anthonomus lepidus* Ann Ent. 1. 128.  
 & the genus *Anthonomus* in general previous their nests with conchillium.

*Suffusa* Local opinion H. M. Longsd.  
Upgrated *Sugarcane* ~~had to stop~~ from 12 - Park ridge 300 ft H. H. 1600.

Leaves much the same as the above.  
Reportedly suffused with a pale green.  
dark sword-leaf grass. Name 318  
such sword grass. Name 318

Hab. U.S., Europe, Asia. (Mor.) *Canasta* common (Saunders.) Ma Va. (L.) Ha Ha bags (Ceyl. Ent. 11, 13) note. A *Sympusa* Don & Schub. & C. Telefow Har. are mentioned as synonymous in Pack quote 306



turn a dark  
face to bear

*Lycotis telfera* Harris Mor. 42. Lar. 448. Riley Prairie farmer 19 p. 20140 *Pack quid*  
*Gamma rusticus* Harris Riley 1<sup>st</sup> Rep. Mo. p. 80, pl. 1, fig. 8-9, 10. 896  
Greasy cut worm Riley or Black Cut worm of Pa. Farm.

Larva nocturnal & devour the stem & lower tender leaves  
in July & Aug (Man.)

Hab. Ma. Va (LG) Illin. (Riley) Mass (Harr) Food Garden & herbaceous plants  
Maure (Jacq) <sup>or</sup> tobacco, Tomato, corn etc. (Riley)

2.00.  
AUGUST 20.  
I found many of them sheltered under dark brown dense mats  
black eggs 2 in pairs also in nest of *Gramineus*, divided nearly  
into 3 equal parts by 2 transverse bands each composed  
of two wavy dark brown lines in mid ordinary spots  
of the other one spot, leaving the anterior band, etc.  
extinct with white, leaving the anterior band, etc.  
head wavy, nearly white, brownish transparent shaded behind  
& wavy with dusky brown, thorax brownish gray  
edge of collar blackish abdomen gray.

80a

unarmed Agrotis <sup>versicolor</sup> Harr. Mor. 42. Lar. 4440. Riley 1<sup>st</sup> Rep. Mo. 72 pl. 1, 2, 3, 4.  
Unarmed Rustic Harr.  
Variegated cut worm Riley

Insects 98  
fig. 2. coll. of Mr. Sanborn  
Man.

Larva nocturnal, cut the stems & devour the tender leaves

L. <sup>destroyer</sup>  
by parasite Exonesta <sup>leucaniae</sup> (L.) Riley 2<sup>nd</sup> Rep. 50 Food Garden & herbaceous plants.  
<sup>multis</sup> <sup>in cur. 1/266</sup> Larva when young Apple Cherry Mulberry Peach etc. 188/188  
Hab. Mass (Sanborn)

*Agnostis mermis*

Eggs. "to the number of 800, deposited in a long belt on a twig of brach. Ann. Ent. 1, 183  
Var." when young have 16 legs but the two hindmost pair of abdominal prolegs are much  
longer than the 2 forward, & the worms have at that time the peculiarity of looping up the  
back when in motion like the caterpillar worm. they can also let themselves down by a thread  
when young. Then for the most part in company on the leaves, but after the first month  
they leave their looping habit, their legs become of nearly equal size they can no longer  
let themselves down by a thread. They now stepwise climb & thus the true cut worm  
characteristic of being during the day, just under the leaves of the ground & of cutting  
up vegetables. Ann. Ent. 1. 188

2.00.  
AUGUST 21.  
Forewing light brown shaded in the middle towards  
the margin with dusky brown crossed by 4 more  
or less distinct wavy bands each formed of 2 broad  
dark brown & 2 dusky red several blackish spots  
in outer thick edge of wing said wings nearly white  
in middle shaded below with dusky brown  
collar & shoulder brown double edged with black

*Agnostis fumalis* Grose. Bull. Buffalo Soc. Nat. Sc. 1. 98.

Insects pl CXVI. fig 6 fm Coll of Mr. Grose

111

*Agrotis*. *mummilloides* Grati

Bull. Buffalo Soc. Nat. Sc. 198.

In pl CXVI by 17. fin coll of Mr Grati.

*Agrotis normani* ~~ella~~ *cana*. Gr 84/23. can

*A. Saura* see *mermis*

*Agrotis*? 94/33

*Agrotis pratina* SP. 106/21.

Its fore wings generally dk ash color with only a faint trace of double Stannarie bands  
the ordinary 2 small narrow anterior post velvety oval & connected with the oblique  
horny shaped spot by a longitudinal black line this wing darkish white darker behind  
head collar & abdomen almost colored. 1.50 to 1.75

*Agrotis clandestina* Mor 42. Prairie Farmer Vol 19 p 1614 Riley 1<sup>st</sup> Rep Mo 79  
Noctua Har p 448 Tsch Jr NY Sdg Soc 1855 vol 15 p. 577 A&L. fig 153  
Mamestra unicolor Walk ? Graphiptera lubricans Walk Br PESR 3. 525.

*Clandestine Owllet Moth* Har

W Misted cut worm.

Lar when young subs on a variety of grasses they descend into  
the ground & reappear in the spring feeding at night or in  
cloudy weather they drag their food under stones, or to places  
of concealment & shelter "has also the habit of climbing trees & shrubs,  
in case of the birds becoming slaves in the evening". Inspe 53

Pupa forms about July (Man.) Inspe 53  
are very abundant, and sink to the clay (Md.) during the day lying hid in Fig 8. Md.  
crevices & chunks

Food Garden & herbaceous plants.  
Wheat Buckwheat &c.

*Cab Moth (Har)* Ma Va (G) Field Endive (*Chicorium Sativum*) Corn Pumpkins  
& Peas Beans Cabbages &c Riley

→ Agrotidae destroyed by den der flat Larva of a coleopterous insect  
possibly *Padus corynoides* - Tsch Jr 1855 p. 578 }

*messor a reper*

*Agrotis messoria* Har Mor h p 2 Har fig 4  
Reaping rustic. Har Cochrane Riley Gr auth

Lar Nocturnal, eat Stems & devour the tender lower leaves

Pupa formed underground.

Ins July Aug (Man.)

Ins p 64 fig 25 coll of M Walsh Stein

Food Garden & Herbaceous plants.

*Cab Moth (Har)* Stein (Walsh)

*Agrotis nigricans* Linn. Tsch Jr NY Sdg Soc 1863 vol 23. p. 804 pl 4 fig 3.

var Moiri Tsch.

Ins p 50 fig 5. Md.

Larva cuts off the plants of young Indian corn & other plants  
half an inch above the ground by night thickets & grasses  
the surface by day  
Ins p 50 fig 5. Ins. corresponds with Tsch fig 3.

Food plant Maine Ins

*Cab Moth* Tsch

*Agrotis*

juv. sent in collect of Dr. E Smart.  
& taken in South Calif.

Ins. p 162  
fig 6

*Agrotis caprea*, Thunb.  
*Agrotis* (Jackson auth.)

Ins. taken on Mt Washington N.H.

Ins. p 94  
fig 26 in coll of M Sanborn  
Boston (102)

*Agrotis v<sup>er</sup> tricasa* Lintner Ma 4/11/18

somewhat resembles *Subgothaea abron*

*Agrotis subguttata* In grayish brown fore legs with broad which slope from outer margin to base beyond the middle. It then branching from this symmetry through the centre of wing, between them is a pale triangular spot. Each of this a pale Rodney orange spot, extending from base of fore wing to a dark orange streak resembling a band head which streak is crossed by 2 short not parallel lines of a pale color.

Fitch Jr. NY S Ag Soc. 1855 vol 15 p. 526.

\* *Agrotis subguttata* Fitch 314 - pl 3 fig 1. Riley Prairie Farmer. Vol 19 p. 444.

? *Agrotis nigrium* Grise coll. Riley 1st Rep. Mo. p 81 Pack Guide 306  
Graphiphora to Negrom. Birch museum. Non p 40

Gothic cutworm Walker. GSR. To AES 2470 sp. 79

Silvie Hart.

Western striped Cut worm (Riley)

Larva eats stems & lower leaves. Pupa formed underground.

Ins July to Sep. 92. & making its appearance from 4 to 6 weeks later than a Cochran's Cut. Hab. N.Y. (Utah) Mo. (IG) Can. (Bathurst Can. Ent. 1. 86)

\* This is judged by Mr. Lintner not to be the true subguttata of Fitch (Lintner notes)

variable  
the dorsal or  
associated

*Agrotis lisselata* Har. Mor 42. Har 445. Pack guide 305-46. Fig 3 pl 5. fig 3.

Checkered rustic Har.

Larva cuts stems & feeds on the lower leaves. Nocturnal in habit.  
Ins July Aug (Mass.)

Food Garden & Herbaceous plants

Hab. Mass. (Har.)

(Ins fore wings dark with color. with only a faint trace of transverse double bands  
the ordinary spots are large & pale & alternate with a triangular & square  
deep black spot near the base of wing has wings brownish gray in the middle  
& blackish behind)

devastator destroyer

Fitch Jr. NY S Ag Soc. 1855. vol 15, p. 547. (Bathurst. To Nov Soc Inst 2/82)

*Agrotis devastator* Har. Mor 42. Har 445. Riley 1st Rep. p. 83 Pack guide 306

Mamestra or denaria Walk. G.R. To AES 2.77.

Mamestra devastator G.R. To AES 2.77

Cabbage Cut worm. Har.

Glossy cut worm Riley

Eggs deposited in the autumn at the roots or near the grain as they hatch in May.

Lar. continues in the caterpillar state about 4 weeks cuts off stems & feeds upon the lower leaves

Pupa formed underground.

Ins. appears about July conceals itself under bark or in crevices during the day & flies about sunset. (Mass.)

Food Garden & Herbaceous plants.

Hab. Canada (Saunders) Mass. (Harris) Nova Scotia (Bathurst)

(Pack guide 305 & Cochrane)

*Agrotis cochranae* Riley Prairie Farmer Vol 19 p 444 Riley 1st Rep. Mo. p 74 Ins pl 92

Dark sided; cut worm Riley  
or Cochrane  
etc. { the  
Calumet Allen }

Larva comes out of its retreat in the evening & climbs up trees & shrubs with wonderful agility & cuts off both blossom & leaf buds of Mr. Riley tree brood each year

Snago appears July & August. Mo. Apple Pear Graple. (Pack)

Hab. Mich. in Mo. Caladenia Chamopodii Walk. closely resembles this in its markings. In Inst. 2/95

reducicula Mor

*Agrotis texana* Fitch D.N.E. & S.X. 1850 var. Texana

Texana cut worm

Food & habits probably same as above

at all? (S) Texas (Grote)

Ins pl 79  
Fig 2. Grote fig

*Agrotis texana* Jr. Pl Sp 2. p. 273. he 6. fig 2 &

Ins pl 46  
Fig 10

79/2 fol 1 (103)

*Agrotis cognata* Linn 89/31

*Agrotis hanapica* Gr 87/1

*Agrotis* <sup>old</sup> *inciris* <sup>Guen</sup> <sup>Mat</sup> Where? ?

*Agrotis sexatellus*. Grata Bull Buffalo Soc Nat Sc. I. 100  
♂ Ins pl CXVI. fig 13. from Coll of Mr Grata

of the wheat

*Agrotis tristis*  
*A. perletans* Walk. subsp. GVR Tr a E.S. 2. 78

four toothed

*Agrotis quadridensata* Grote P.E.P. 4 p. 492. pl 3. fig 2 & 3.

Food & Habits probably the same as the other Agrotidae Ins pl. 78  
1998 10 ♀ from Gratz's fig  
Hab. Colorado (♂)

centricosus  
tail of gaster

*Agrotis cicatricosa* Grote P.E.P. 4 p. 492. pl 3 fig 4.

Food Habits same as above

Hab. Colorado (♂)

Ins pl. 78  
fig 13 ♀ from Gratz's fig

venarula

*Agrotis venerabilis* Doubled. Mor. 42.  
" incalda Walk. GVR Tr a E.S. 2. 78.

Food Habits as above

Hab. Nova scotia (Mor.) Can. (Saunders.)

Ins pl. 89  
fig 27 Coll. of Mr. Saunders  
Canada

of the neck or  
collar

*Agrotis collaris*. GVR ♂ a E.S. 1 p. 348. pl 7 fig 53.

Food & Habits as above

Hab. N.Y. (GVR).

Ins. pl. 91  
fig 5 GVR fig

jointed or knotted

*Agrotis geniculata* GVR Tr a E.S. 1 p. 349. pl 7. fig 54 ♂

Habits food &c see above

Hab. Pa. (GVR)

Ins pl. 91  
fig 6 GVR fig

new, unexpected  
or overlooked for

*Agrotis repanda* GVR Tr a E.S. 1 p. 350. pl 7. fig 55 ♂

Habits food &c see above.

Hab. N.Y. (GVR)

Ins pl. 91  
fig 7 GVR fig

*Agrotis muraenula* GVR Tr a E.S. 1 p. 352. pl 7 fig 48 ♀

Habits food &c see above

Hab. N.Y. Rhode Island (GVR) Can. (Canad. 1. 86

Ins pl. 91  
fig 8 GVR fig

*Agrotis violaris*

GVR Tr a E.S. 1 p. 353. pl 7. fig 59 ♂

Hab. Pa. (GVR)

Ins pl. 91  
fig 9 GVR fig



Ins pl 100  
Fig 10 fm Riley

*Scandens*  
climbing  
*A. agrotis scandens*. Riley 1st Rep Mo. p 76. pl 1. fig 5-6.7.  
Climbing cut worm 8 Rustic  
Hab Mo. Ill Ind Mich Riley Larva at night ascends trees & shrubs to cut off blossom. Fruit & Forest trees  
Leaf buds Larva destroyed by *Arma spinosa* & *Grapes incassatus* Riley.

*c. Agrotis* ?

Larva found on Cotton Geo. Sep L pl 6  
near root. Fig 18. Geo.  
Cult: Geo. Food plant Cotton

*Agrotis* ?

Larva found on cabbage near the root. Larva 6  
Mo. Ch. 16. Mo.  
Hab. Md.

*Agrotis poly tricora* LinnæusIns pl 46  
Fig 8. Mo.*Agrotis* ?Inv pl 53  
Fig 9. Mo.*Agrotis* ?

Hab. Md.

Ins pl 50  
Fig 5. Mo.Canada  
Saunders.

*Agrotis spodia* Guen. } *A. bilineata* Guen. } *A. obsoletoides* Guen. } *A. leucosticta* Mact.  
" " } " " } " " } *A. leucosticta* Guen. } *A. leucosticta* Guen. }  
" " } " " } " " } *A. leucosticta* Guen. } *A. leucosticta* Guen. }  
*A. ordinalis* Walk. *A. reticulata* Walk. *A. inexpectata* Walk. *A. inexpectata* Walk.  
*A. illata* Walk. *A. obelasca* Walk.

500 miles a cave  
5000 feet  
rainbow tawny yellowish Spodias Mor. Cat. 40.

*Spodias* Bedr. var. *maculata* Meiss. Bern. Saunders Caw. Mor. 40  
(Spodias Mor. Cat. 40.)

Top fine  
fibers, fibrous

*Spodias* sp. pyrophotis Guen. Mor. 40 Saunders Canada.  
(Spodias Mor.)

Hab. Nova Scotia. (Mor) Caw (Saunders)

*Ap. acetosae*

Striped cut worm. 7313.

Cuts off plants about 1 inch above the ground  
leaves (leaves) but slightly 4 or 5 may sometimes be found  
with half the bark removed when the stem may  
be broken. Strips made across the several stem and  
as low to devour during the day.

*Ap. acetosae* (L.)

I saw a white or pale smoky with darker brown  
stripes 2 strong the back & 3 broader stripes on each side  
head black larger than in preceding species  
head smoky yellow.

Faintly lined cut worm. 7318.

Leaves etc. but slightly 9 sometimes leaves its  
root out of its hole when the stem has been cut  
to devour during the day. Cabbage & onion  
dark brown with very faint longitudinal lines  
spotted dots but less distinct than its general color  
head smoky yellow.

Fishk p 313 mentions this.  
following cut worm of which  
he did not know the imagoes

Red headed Cut worm

Lar. pale dull brown without  
any stripes cuts (Marrow)  
slightly below surface of  
ground. (C. c.)

White cut worm. 7313.

Smaller & occasionally found amongst  
Corn Beans  
I saw white black dots & no stripes or lines except  
1 row of very faint brownish touches along upper  
part of each side, head smoky yellow.

Black headed cut worm or Black worm. 7313.  
L cuts off the stem slightly below the surface of  
the earth & drawing the several stems out of their  
holes it carries them upon its during the day.

Head dark brown with faint traces of pale lines -  
head deep black.

*Nectria bicarnea* <sup>var.</sup> *lentaria* 23 ann. Sp. 1048 Cat  
nat no. 62

*Graphiphora* (Lath.) Hub. B. Linn. Can Ent. 1. 86.

Hab. Can. Nov. (Can Ent.)

*Graphiphora angulatum* Guen. Belnum Can Ent. 1. 86.

Hab. Europe & Can. (Can Ent.)

black C.

*Graphiphora* C. Niagram see *Oreocetes subguttata* p. 103.

spars. wavy line for wings.  
posterior bearing.  
baja?

*Graphiphora* (Ochs.) *baja* (Gmel) Mor. 41  
Nebula lava

Hab. not common Can (Saunders) Md (G) N.Y. Europe (Mor) Ins pl. 60  
Fig. 24. Mor.

note "Specimen much redder than usual" Saunders notes

Canada  
Saunders  
Augur an Augur  
sober sugar

{ *Graphiphora* *augur* Lab. } { *G. intercincta* Guen. } { *G. leucanaria* Guen. } { *G. lucunda* (Roth)  
Mor. } { *Can* } { *Can* } { *Can* } { *Can* }  
Newfoundland Nova Scotia Belnum Nova Scotia Belnum

all the following (Noctua) belong to genus *Graphiphora* of some authors Grote P.E.S.P. 3. 524

now, night  
attracted

*Noctua* (Linnaeus) *alternata* ♀ Grote P.E.S.P. 3. 526. pl. 5 fig. 8.

Ins pl. 43  
Fig. 27. coll. of M. Weidemann  
N.Y.

*Graphiphora*

Ins pl. 80  
Fig. 2. fm Grote fig

Hab. Mid St. (Gr.) Ny. Heidemeyer

*Noctua* *borealis* Guen. Mor. See above under *Graphiphora*

*Noctua* *maculata* Walk. G. & S. 2. 70.

? his unio  
carnei, flesh,  
? 9

brown necked

*Noctua* *brunneicollis* ♂ Grote P.E.S.P. 3 p. 524 pl. 5 fig. 5.

*Graphiphora*

Ins pl. 43  
Fig. 25. N.Y. coll. of M. Weidemann

Cat. Mid St. (Gr.) (allied to *agrotis claudetana* Gr.)

Ins pl. 80  
Fig. 3. fm Grote fig

*N. brunnea* of England is known in the purple clay of Newmarket 300' flowers on Sallows.

*Noctua cuprea* ♀ Grote P.E.S.P. 3 p. 526. pl. 5 fig. 7.

*Graphiphora*

Ins pl. 106  
Fig. 19. fm. M. Saunders

Ins pl. 80  
Fig. 3. Grote fig

Hab. Mid St. (Gr.)

\* resemble description of *Graphiphora expansa* ♀ *G. lucunda* of Walk. (Grote)

striped front

*Noctua vittifrons* ♀ Grote P.E.S.P. 3 p. 527. pl. 5 fig. 6.

*Graphiphora*

Ins pl. 81  
Fig. 44 fm Grote fig

Hab. Colorado. (Grote)

note "with *Noctua plecta* Tine & *N. Ochrogastra* Guen. belonging to *Boarmiinae* genus *Chersotis* (*Ochropleura* Hilt.) it is a more robust & darker colored species than these & with them cannot be generically separated from the other species of the genus *Noctua*." Grote P.E.S.P. 3. 528.

upper pale or light yellow  
thick side or rib.

? sleek  
to touch flat

*Agrotis* Ochs.

*Ochropleura* (Hilt) *plecta* Linnaeus Mor. (*Ochropleura*) 41

*Noctua* *plecta*, flame shoulder moth Guen. 345.

E. Chersotis (Bav.) Nebula Grote P.E.S.P. 1 p. 218.

Ins pl. 53  
Fig. 15. N.Y.

Ins pl. 74

Fig. 18. coll. of Ent Soc Phil.

Hab. Can. (Saunders) Md. (G.) food Ladice's bed straw & woodruff (*Asperula*) Newman 345

very similar in appearance to *Noctua vittifrons* see note.

*Orthocia ralla*

*G. v. when young* - 5g with a white line on back & pale yellow line on each side when larger with 5 white lines - 8g with surface speckled with black dots. Iris. At first gray variegated with rusty brown near the middle with a faint round spot, behind is a heavily shaded spot. Blackish gray margined with a whitish line, the space between the spots only near the hind edge is a rusty transverse streak in the middle, a rusty spot upon anterior toes straight & one on inner margin. - Col. - 91

*Orthosidae* Guén. { *Orthosia halpi* nearly horizontal thorax robust not crested anter. inclined or elevated in ♀ wings slender etc.

*instabilis*  
*inconstant.*

*Cathosia* (Cochs) ~~nebulosa~~ D'Orbigny n. Moor 41 { antennae protracted or retracted in 3° wings slightly different  
five wings elongate W 93 Tr. Acad. Ag Soc. 1856 vol 16 p 343

Jan. when young green with white line upon back & a pale yellow line on each side when larger it has few white lines & is profusely with white dots. Jan pl 67 19 to call at New Haven Mass (?) not like the 67.

Food plants Oak, Apple, Peach, & others.

(See also *ibid.* 16, p. 44.) *Named by Riley* *Heterothrix magnifica* *var.* *typ.* *W.M.A.* *var.* *(authority below)*

(see also pl. 16 fig. 9 which resembles 6/11) the larvae are larger  
and (according to Riley Heleobia) measuring 119-147  $\mu$  m.

*Pyrrhia exprimens* Walk Ma. S. 6/14.

*Pyrilia* exprimens Walk. Md. I. 61 pp.

*Tainocampa* alia Guén Mor 41

*Saiva stripe*  
xapatty caterpillar.  
(after *Brahma Nivrat).*

*Exustus* *Ceramica* *Guén* *Exusta* *Guén* *See* *Mamsetra* *pcta* *po 101.*  
*Scorched* *on burnt*

Candens  
shining

Hab Canada (Saunders) 24 (Mar)

*Eeraspis (Ceph.) arenoceloides* Guén. Mor. sp.

Hab NY (Nor) can. (Saunders)

*Danthia cerago*? of Sprague's coll. Mor o  
cerago. of Newman. 375.

Insp. No. 106  
S. resembles closely X. muta. G.R. 4/1, or as.  
note there is a X. silage of Ceniz can this be it? H. Adams long Hab.  
X. Cerago of Eng. feeds in sunny are catkins of Mallus & afterwards  
an other plants. Nameam. 375.

Xanthia (Lohs) ferrugineoides Guén Mar 28.

*Insecta* Fig. 15. Ind.  
lar feed on *Tick Trefoil Desmodium canescens*. (auth Riley)  
Was taken in Canada as late as 29<sup>th</sup> Nov. (Bentham Can Ent. 1. 47)

Hab. Md. (79) Food plant Tick trefoil (Riley)

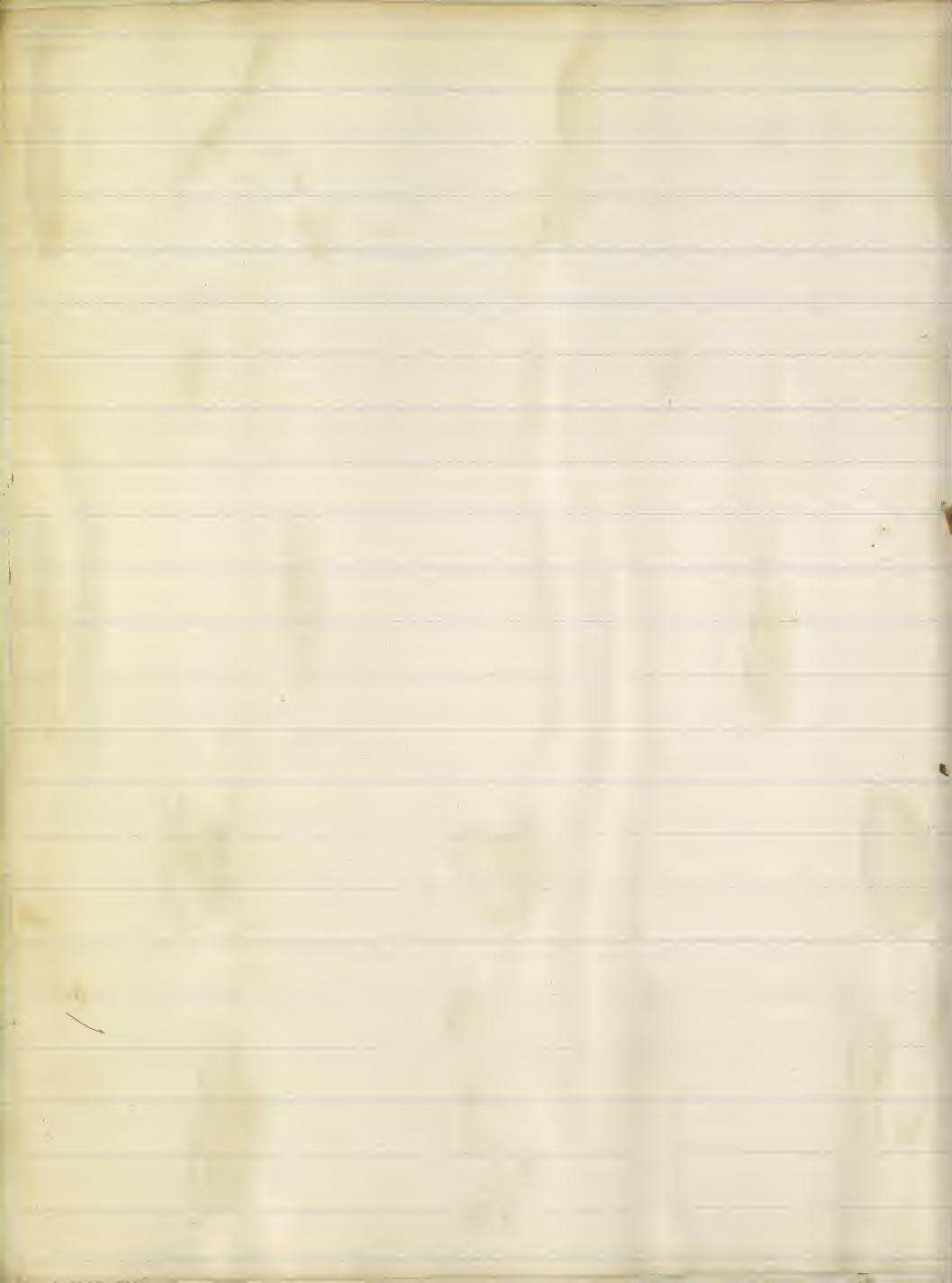
Xanthoria ferruginea Hilt. Can. Bot. 15: 86  
an European moss the larva of which is said to feed on buds of Napier.  
not uncommon Can. Sch. Bot. Nov.

*Xanthia ralla* GGR Fr. a E.S. I p. 346. pl. 7. fig. 49 51  
not uncommon Can. Sch.

*Hab atlantic dist N.Y. (G. 812.)*

Ins pl qd  
fig 7. G & R fig

104



*Canthia pulva*. GHR Tr A.S. 1 p 347 pl 7 fig 50. ♂

In pl 91

Fig 99. fm GHR fig

Hab N.Y.

distinguished from *C. calva* by its dull purple red or rufous color } (GHR)  
darker secondaries &c. }

*Canthia bicolorago*, Guen.  
is *Canthia speciosa* Walk. Mor (Pouille) 28.  
GHR Tr A.S. 2, 78. }

Palpata walk.

Hab Can (Mor. Saunders)

Hippocrateos  
of a yellowish  
color  
pampinus a young  
shoot of the vine }

*Euburroedia* (Guen) *pampina* Guen  
*Burroedia* Saunders list

In pl 52  
Fig 18 Ind.

Hab N.Y. (Mor) Ind (Hab) Can. (Saunders)

105

93

### Hydrocidae Guen.

*Rhipia* (Hübl) Grate ♀ Grot P.E.S.P. 2 p 435 pl 9. Fig 7.

Mor 37

*Salogena personata* Walk. GHR Tr A.S. 2, 86

In pl 79  
Fig 5 Grot fig.

Dar. light green with subdorsal reddish stripes (Gr)  
feeds on Silver leaf poplar

Hab Miss St. Brooklyn L.I. (Gr)

Food plant Silver leaf poplar

Shows some affinity to the genus *Stiphora*. Its position unver the present  
Sam. (*Notodonta* mentioned) is in accordance with the classification of  
Dr. Horneck Schaeffer. (Gr P.E.S.P. 2, p 337.)  
placed by Mor just before polygraphora.

abrupt

*Rhipia abrupta* Grate P.E.S.P. 2 p 336. pl 8 fig 3 ♀

In pl 79  
Fig 6. fm GHR.

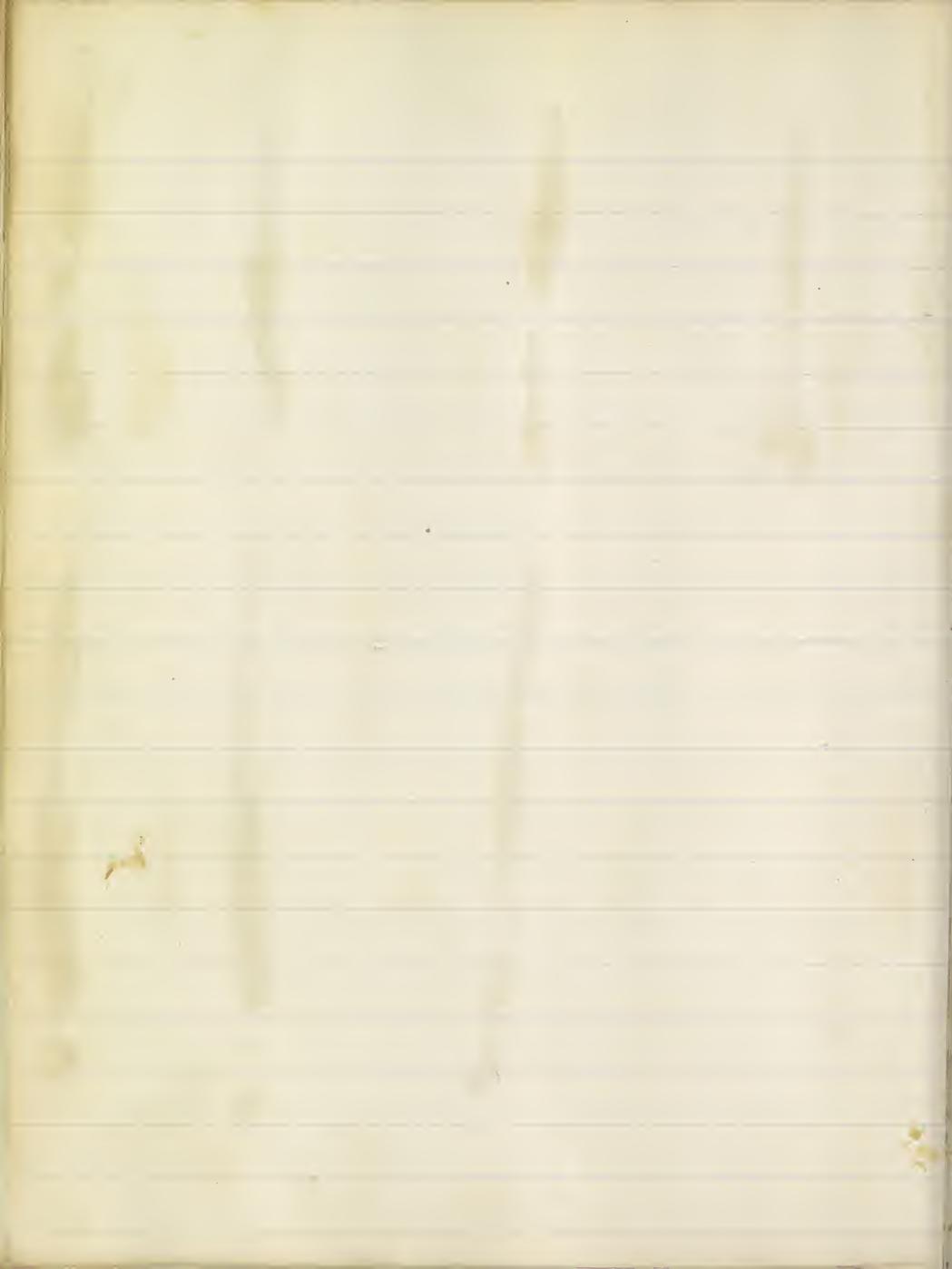
"resembles R. hybris Hill but differs" Gr  
(in Call. Pink Soc. Paul)

*Phryganella* (Calyptocerata) *elliptica* Gr. 1. V. Benth. 2. Not. Soc. Br. 1872  
*Spigophora* 3. Crambus 4. Gr.

In pl 82  
Fig 11. coll of Mr Saunders  
Can.

Hab Montreal Can. Not common (Saunders) N.Y. Mor Nova Scotia (Benthum)

164



iris  
the vacuous

*Thiogaphisira iris* (Guén) Mor. 37. Betham. Fr. Nova Scot. Jan 2/82

In pl. 55  
fig 17 Md.

Cab. N.Y. (Mor) Ma (G.) Toronto Can not common (Saunders) Nova Scotia (Betham)  
*Phlogophora* one up in England known as the Angle shade moth. Newman 602

periculus  
dangerous

*Thiogaphisira scorpiosa* (Walker) Sc. Mor (Saunders)

Cab. N.Y. (Mor) Can. Saunders.

? *Euplexia* (Stehl) *lucipara*. Linnae Linna 2/63. Mor. 37.

N.Y. Europe (Mor) Md (G.)

In pl. 60  
fig 14 Md.

*Polia* (Ost.) (*Polyphoeus* Bdry) *herbaria* Linna 2/75. Mor. 37.

In pl. fm coll of Mr Sanborn Mass. In pl. 55  
fig 18 Md.

between *Euplexia* & *Euris*. (Mor)

see *agrotis*

well few to flow { *Mamestra*  
water fluid as ? *Curasa* Hill Tates (Guén) Mor 38.  
*Abraxas* clemusa Walk. G.R. 2/82. 2. 78.  
*Polia* (Wetb) Mor. 38.  
*Apela* Guén

Cab. N.Y. 9 Md. (G.)

In pl. 43  
fig 16 & coll of Mr Macdormay N.Y.  
In pl. 49 fig 8 Md.

J. 59/1

*Tana* Tates *steueri* see *curasa* Ann  
Rep. N.Y. Can. Saunders 32.  
(*Abia* exconspicua)

ote PE 2/9 3 / 82. pl. 1  
fig 5.

In pl. 59  
fig 8 fm Grote fig

Grote

(105)

*Eunais* (Reub) *nimbosa* (Guén) 2/77.

In pl. fm coll of M Sanborn Mass.  
Cab. Can. Europe (Mor)

In pl. 106  
fig 22.

104

94

*Eurosis*

*Hab. Md.*

*Insecta* ~~W.M.~~ *Ma.*

Canada Saunders *Eurosis turbida* Linnaeus <sup>in Sheep,</sup> <sup>occulto.</sup> Linn. }  
full of green or blue <sup>in</sup> Nova scotia (Bellamy) Mor } <sup>in</sup> Mor }

*Eurosis* <sup>Linn.</sup> { *Mor.* }

*Eurosis* <sup>Linn.</sup> { *Mor.* }

before turns in  
more cut.

*Polyphaenis* Bdv.  
Bellw Ochs

*Taenioecampta* Har cat 10<sup>c</sup> known on pexxxiv. / 3. race.

*Habena badistriga* Grote Lintner 23 ann Rep.  
ny & cab. 62.

*Habena aurantiorum* Grote Bull Buffalo Soc. nat Sc. I. 109  
Ins. pl CXVI. fig 7. from Coll of Mr Knott

*Habena Brueghami*. G.R.

*Habena fractifera* Gr 88/27 Can.

*Habena gemina* var *remissa* Hub. 88/31

*Homohabena badistriga* Gr. C4M/9X

*Habena chalcedonia* Hub 85/2

*Homohabena badistriga* Gr 87/35. Can.

SCXV *Habena* Sch Beau? <sup>?</sup>  
" *Mamistris* *devastator* (Brau?) Aug 62  
Linton 23 ann Rep. ny & cab. Nat his 62

*Hadena* male moth without any feathering to antennae as in *Agrotis*. Dr Ent 1085-

*Hadena* (*Trotts*, *distincta* Guen G.R. Tr A.E.S. 2. p. 197 pl. 3 fig 72.8.

*Achatia vulgaris distincta* Huf

*Hadena distincta* Guen & Walk.

97

Lab Atlantic dist. G.R.

W.M. *Hadena chenopodii* Walk. Dr Ent. 1. 35  
May 24 J.W. ~~1900~~ Stein

Ins pl. 99  
fig. 4 fm G.R. fig

*Hadena subuncta* G.R. Tr A.E.S. 2. 198. pl 8 fig 71.8 Riley 1st fig 84<sup>b</sup>  
Specified Cut flower in July Aug. Ins pl. 99 fig 14.16. Ins pl. 99

Lab Mo. Mrs Atlantic dist. ♀ Larvae conceal themselves during the day Food Plant. Calibay pl. 79

edges simple *Hadena* (Chw) *mischoides* Guen Mor 88

meadows shabby

Ins pl. 55  
fig. 4 Ma 39.  
10. 9nd.

Lab Mo common (♂)

### *Scythropidae* Gr Cor

*Hadena xylosteoides* (Guen) Mor 88. Can Nat 2. 34. Bethune Tr Nov Scot Ins 2/82

*Cadena lepidinaria* Walk. Gr. Tr A.E.S. 2. 74.

*Xylostea contraria* Walk. G.R. Tr A.E.S. 2. 70. 87. Ins pl. 55  
Egg hatched (London Can.) 24. July lar. any lat 2/84 fig. 13. Mo. fig 8. Ma.

Lar nearly full grown 3rd July Can. dep. lar. any lat 2/84

Ins very common near London Can. Larva dies

& appears August

Lab Ma (♂) Can (Saunders) Can Nat 2. 34. Handelius. Larch quarrel & Scarabaeus (Can Nat)  
Nat Nova Scotia (Bethune) & pupa found in a rough outer case of leaves fastened to the box by silk threads. Can Nat

July (Can.)

August ator

*Hadena amputatrix* Fitch see *Mamestra arctica* p 101

*Hadena amica* Kar see *Mamestra arctica* p 101

Canada Saundary

*Hadena chenopodii* Guen } Ins pl. 56  
Walk. Dr Ent 2. 94 } Mor } *H. tenubifera* Walk. }  
} *H. contenta* Walk. }  
} was struck out of Can dist. Bethune Can Ent 9/79

### *Rhytididae* Guen.

*Calocampa* (Huf) ~~lutea~~ (Kraat) Mor 88.

Ins. pl. 65  
fig. 28 coll. of Mr Saunders  
Can.

Can rare (Saunders.)

Ins pl. 82  
var. fig. 24. coll. of Mr Saunders  
Can.

*Sericocampa dictacea* Mor 0.

Insect sent by Mr Saunders of Canada where he writes it is not common

Ins pl. 82  
fig. 20. Coll. of  
Mr Saunders

Lab Can (Saunders)

types hatching or  
hatching caterpillar  
when old ancient

*Xylosteum canescens* Riley. Lentua 23 down Sep  
N.Y. late next morn 63.

CVIII/17

1 *Xyloina cinerea*. Ns. Riley 3<sup>d</sup> Rep. 185. Ash gray Munson Riley  
L. feeds on foliage of Apple poplar. Hickory Grapes none Red bud.  
Bones into fruit of Apples & Peaches. & also found feeding in  
feeding upon Gall. *Quercus Spargyrca* May & June.  
Ins. Sep. or Oct. but sometimes does not appear until the following April  
L pale green with cream colored spots & broad cream colored lateral  
bands.  
Ins. cold ash gray upper wings variegated with darker gray Ins. 108  
erroneously *Celaena oblonga* of Speyer & Mor. (Lentz) 17 Riley

98

*Xyloina* ? Ins Ent 2. 245

L pale green with cream color is ~~dark~~ streaked  
of a large broad cream colored lateral band  
found inside a peach. I found also in apple,  
hickory Oak gall on hickory. He  
never does much damage to fruit.

Hab. N.W. Moth ash gray & undescribed

Eudives. woody or  
like wood

*Xyloina* (Cens.) *Bethunei* GHR Tr A 85. 1. 353 pl 7 fig 563<sup>a</sup> Ins. pg. 65  
"Bethunei Xyloina Ins taken Sep & Oct. Can. Benthoni } Fig. 27 coll. of  
(Can Ent 1. 86) } Ins AC 91 Mu Saunders, Boston,  
Hab. N.W. Can. Long Island (G & D) (note just before *graptidorsa* Nov. 40.) Fig. 15. G & R fig.  
& between *australis* & *cucullia* Benthoni. Can Ent

capax large  
or big

*Xyloina capax* GHR Tr A 85. 1. p. 355. pl 7 fig 572

Hab. Pa (GHR)

Ins. pg. 91. G & R fig.

comparative

*Xyloina Contraria* Walk. Mar (Doubtful) 40.  
Hab. Can. Saunders struck out of Can Ent Benthoni Can Ent 1/9

Eudives wooden.

*Xyloina Ochre contraria* (Nis) *infructuosa* (Hb) *signosa* (Hb) St. Eudive Mar 40  
see also pg 106.

106

*Xyloina petiolarata* (W F) Lentz 13 Ann Rep  
Myctab. 10th his 63.

*Cucullia convexipennis* Gr Rob. Lentner 23 Ann Rep  
N.Y. State Natl. Hist. 63. 81

*Sou Solidago* { black dorsal stripe thick red  
black broad stripe yellow broken  
transversely into lines

807  
bucy

*Cucullia intermedia* Lentner Ann Rep N.Y. State Catines 1869 81

I. C.XV  
19 Lentner Col  
L feeds on Burdock lying concealed  
during the day & coming out to feed at night  
pupa formed in a ball of earth underneath  
with silk

*Cucullia intermedia* Speyer. Lentner 23 Ann Rep  
N.Y. S. Cat. Natl. Hist. 63. 81  
from Burdock. *Lapponia officinalis* Lentner figure 5 pl 8

*convex wings*

*Cucullia convexipennis* Gyr. To A & S. 2. 201 pl 3 fig 16. Ins. pl 99  
Lar taken by Mr C Dodge on Golden Rod Aug 3<sup>rd</sup> Conn. Lar. pl 98

Lab. Conn (C.R. Dodge) Nova Scotia, Baffin? Sm. pl. July, 1891. (Can Ent) { Fig 16. Golden Rod. Conn.  
authority Lintner

*Cucullia*  
a hood  
astrum w star

*Cucullia (Ochre) asteroides* Guen. Baffin To Nov Scot Inst 2/82

*Cucullia* Mor. &

*cucullia*

Larva of a green color feed on Aster July Can.

P. same July 30.

Ins. appeared June 6<sup>th</sup> (Saunders Natl.)

(bar) Ins. 60

19 19 Md.

Food plant Aster (Saunders)

Ins. pl 87  
Fig 9. coll of Mr

Saunders Can

Lab. Md (FG) Canada (Saunders) Nova Scotia, Baffin

L. pl 109  
Fig 10. on authority of  
Mr Saunders  
Prod. Raywood (19)

umbelliferous  
Reaching at home

*Cucullia intermedia* Speyer  
*Cucullia intermedia* Guen. Grates Coll. The hawk moth Newman 1836

Mar. O. & Saunders list

Ins. pl 49  
Fig 20. fm Mr. Saunders

original colored drawing

The Larva figured was taken from an colored drawing  
by Mr Linnaeus Albany & Remond sent by him to be figured here  
Hub Mass (Saunders) Can (Saunders) L nocturnal feeder. Food plant Burdock  
foodplants Lettuce Sawthistle } Newman in Lappa major (Linnaeus auth.)

one marked

*Cucullia intermedia* Speyer  
*Cucullia annagretaria* Guen. Mar. O.

Ins. pl 52  
Fig 5. coll of Mr  
Saunders Can

115/9

*Cucullia chamaecillae* Fab. } C. florea Guen. }  
Mor. }

XIV/6 Ny

Ins. pl 52  
Fig 10. coll of Mr  
Saunders Can.

London Can. Rare (Saunders)

*Holophaea* *holophaea* atriciliata Gr. XIV/7. Ny

100



Heliothidae Bdv. Guen. Wall. fm Grot PESP 3, p. 4.

"opon confines Agan. *Oreia* (Geyer) *sanguinea* (Geyer) Mor 42 Guen  
Bordering on or  
forming a boundary.  
Sanguineous

ala a wing  
gaura a plant  
*Alaria* (Westwood) *gaurae* S&A. Gr PESP 3, p. 4. Duncan Nat Lib pl 24  
*Rhodophora* (Guerin) *gaurae* Hufn. S&A pl 99 Mor 34  
*A. matutina* Thunb. C.  
Clouded CROWN Moth S&A

I pinkish with a transverse black band  
on each segment below lateral line white.  
no white with a transverse brown band  
that starts from mouth edge also  
brownish pink under wing white with edge  
also of shades brownish pink.

Lar pl 10 Ins pl 66  
7495. fig 7. fm S&A

Leaf Moth (S&A)  
*Toca plant* *Gaura biennis* L.

*Alaria molesta* Fitch In N.Y. Ag Soc. 1867. vol 17. p. 908.

1st inst. Mor. west of Arkansas. Ins in Fitch's coll.

*Rhodophora*, Guen Gr cor

*Alaria florula* Guen Gr PESP 3, p. 4. Mor Can Ent 2 p. 6. & 37.

*Alaria florula* " Mor 34. Fitch 1867. p. 900. In N.Y. Ag Soc. vol. 27.

Flowering primrose moth Fitch 1867. p. 900. In N.Y. Ag Soc. vol. 27.

9 pale green 16 foot long worm with 2 dorsal green stripes & 2 dull cherry red spots on top of neck. In rare instances the anterior ends of the lateral stripes are dull cherry red

Larva eats holes in the flower buds of Evening primrose

& eats the petals asunder. (Fitch) Pupa forms under ground. D.

In taken in Maine July (Scudder) Ins pl 107. Ins pl 56. Fig 19. Florida H.

Cal. Can (Can Ent 2 p. 37) { where also a smaller larva is mentioned feeding on the Anthonia also. in sea fields. Ins pl 6. Coll of Scudder Can L. pl 14. Florida Co.

Cal. Fla (H.) Macne. Can Ent (Scudder) N.Y. Fitch 1867. p. 903. 1nd plant Ins 14. Florida Co.

{ Larva pl 14 fig 16. answers to Fitch's description N.Y. Ag Soc. { *Ectomis Primrose* Anthonia

{ was taken in Oct. Fla. on Wild Anthonia! 1867. p. 903. Wild Anthonia bicolor. { *Anthonia Larmariana* Can Ent 2 p. 6

volucella golden pleasure

floridus  
gray or bright

*Lepidoptera* (Guen) *prescripta* (Guen.) Gr PESP 3, p. 4 Mor 36.

Leaf Moth (Mor.)



*Chloridea* (Guen.) *cherice* Sm & A. Grate PESP 3 p 4.

*Aspila* (Guen.) " Mor 35. SpA pl 100. Guen  
Tobacco bud worm Moth SfA.

Lar pl 40  
fig 11 SpA

Ins pl 66  
fig 3 SpA

Lar spun a web in the ground. 25 July & 28th Aug  
Insect appeared 9th Aug & 18th Sep. Geo,

L. green with pink spots on a yellow whitish longitudinal line } Food Plants Deer Grass or Meadow beauty  
I. upper wings green with 3 brownish or oblique lines of a lighter color. under wings whitish shaded near the veins in } (Rhexia virginica) & Tobacco (leaves)

Note although diligently searched for in the tobacco fields (Mor) not found.

resescent hairy  
growing green,

*Chloridea nervosana* Fab. Gr PESP 3 p 4  
Aspila Guen. Mor 35

Hab. West Ind. Mor

*Chloridea sublexa* Guen Gr PESP 3 p 4  
Aspila " Mor 35.

Hab. Can. (St. Lawrence)

? deniv.  
rundinosa a fair  
on market

*Famula* (Guen) *rundinosa* Guen Mor 0 Gr PESP 3 p 4  
negrovirens Hdw.

*Famula walkeri* *rundinosa* Guen Mor 35.

Ins pl 20  
fig 24, 25. Mac.

Hab. (Mac.)

? deniv.  
hermella

*Nervina* (Walk.) *hermella* Gyr. Gr A.E.S. 2. 119.  
*Philomma* Grate. Gr PESP 3 p 3 v p 541

Insect taken at noonday on leaves of plants Aug.

Ins pl 67  
fig 1 { call of New England  
Mass

Hab. N.Y. (D. Morris) N.Y. East St. (Gyr.) Mass (Auburn)

stellata full of warts  
stars

*Lorvina stellata* Doubt. Mor 35

anthracia  
arborescens  
ovata  
acuta  
acuta anachaea  
forbesii bearing

*Anthracia* nat order of Sp. 1 jaguarina 2 mortua 3 Packardia 4 nobilis 5 Lynx 6 bennii 7 spraguei 8 arctica 9 marginata In PESP 3. 531

*Anthracia* (Bd.) *arctica* Guen Grote PESP 3. p 54.  
" *uncigera* Walk. Grate PESP 2 p 340 pl 6 fig 3.

Hab. N.Y. Long Island. (Gr.)

Ins pl 79  
fig 16. fm bracts fig

short

*Anthracia* bennii. Gr PESP 3. 530. pl 6. fig 4-5. Mor 0.

? Ins pl 67  
fig 5 Call of New England  
Mass

Hab. Color (Gr) ? Mass (Auburn) ? Ma (Fig.)

Affin? Ins pl 77  
fig 25. sma

Ins pl 80  
fig 15 & 16. Grate fig

Sygranthaea Shoreaei ♀ Grate Bull Buffalo Soc. Nat Sc. 1. 115.  
Ins, pl CXVI / 4. coll of Mr Grate

- " hirsus rough hairy *Anthracia hirtella* Gr. P.E.S.P. 6. p 20 pl. 3 fig 3 ♂  
*Ins pl. 67*  
*fig. 4* coll of Mr. Sanborn Mass  
*Ins pl. 78*  
*fig. 12* fm G.R.R. fig 1
- Cat Rhode Island (G.R.R.) Mass (Sanborn)
- 
- jaguar *Anthracia jaguarina* (Linn.) Grate P.E.S.P. vol 3 p. 4 vol 3 p. 528. ♀ vol 2 p. 342 pl 9 fig 11 Mor. 34  
*Ins taken on flowers Aug. Colorado. Ridings* *Ins pl. 26*  
*Ins Colorado. Ridings* *fig. 11. coll End Soc Phil.*
- 
- lynx *Eryganthecea*  
*Anthracia lynx* (Guen) Grate P.E.S.P. 2. p. 343. ♂ p. 4. Mor. 34  
*Ins pl. 56*  
*fig. 17. Fla.*
- Cat N.Y. Pa. Mass. (Grate) Fla. (S.G.)
- 
- Lygranthecea* *♂*  
*Eryganthecea* *♂*  
*Anthracia marginata* Haw. Gr. P.E.S.P. 2. p. 340.  
*Mureophilus ciliatus* Walk. Gr. P.E.S.P. 2. p. 78.  
*" divergens* Walk. Gr. P.E.S.P. 2. p. 78.  
*Euclidea designata* Walk. Gr. P.E.S.P. 2. p. 78 & 87.  
*Pyras marginata* Haworth Gr. P.E.S.P. 2. p. 78.  
*Anthracia revulsa* Guen Mor. 34 Gr. P.E.S.P. 2. p. 78.  
*anthophila* divergens Walk. Gr. P.E.S.P. 2. p. 78.  
*Ins pl. 56*  
*fig. 10. Florida Sep.*  
*Ins pl. 77. Fla*  
*fig. 26.*  
*Ins pl. 107.*  
*fig. 5 rare very common*
- Cat Mi. Wis & East St. Can. N.Brauns. (Gr.) Mu. Fla (S.G.)
- 
- " Mortuus dead *Anthracia mortua* ♂ Gr. P.E.S.P. 3. p. 528 pl. 6 fig 1.  
*Ins pl. 80*  
*fig. 20. fm Grate fig*
- Cat Colorado (Ridings) Gr.
- 
- nobilis *Anthracia nobilis* ♀ Gr. P.E.S.P. 3. p. 528 pl. 6 fig 3. 4.  
*Ins pl. 80*  
*fig. 18. fm Grate fig*
- Cat Colorado (Ridings) Gr.
- 
- Anthracia spraguei* Gr. P.E.S.P. 2. p. 4 ♀ 2. p. 431. pl. 6. fig 4. 5.  
*spragues. anthracis*  
*Ins pl. 70*  
*fig. 26. coll of Mr. Grate.*
- Cat Pa. N.Y. Mass. (Gr.)

*Tygranthoxia* *saturata* <sup>?</sup> *cultivata*

*Lygranthacia*

*Anthocacia packardi* ♀ Gr PESP. 3 p. 528. pl 6 fig 2.  
Packards Anthocacia

Hab Colorado (Ridings) Gr.

Ins pe 76  
fig 19. Coll Ent Soc Phil. ♀  
11/9 flag exp

*Anthocacia* ?

Insect taken in Florida

Ins pe 56  
fig 9 Fla.

Hab Fla. (G)

*Lygranthacia* ? *cercifera* Guen

Gao Md. (Tg.)

Ins pe 77  
fig 23 Md. Sep.

Melaleptria luna Grot PESP. 3 p. 532  
Helothis luna Guen Gr PESP. 3 p. 4.  
Anthocacia luna Guen. Gr PESP. 2. p 344. Walk.

Hab Nth Am! Guen) Insect unknown to me (Grot)

uski honey  
Anthonomus chief  
beines two or double

tuberculum at  
alle owing,

Melaleptria tuberculum Hub. Gr PESP. 3. p 532.  
Helothis tuberculum (Hub) Gr PESP. 3 p. 4.  
Anthocacia tuberculum (Hub) Gr PESP. 2. p 344 Guen. Walk.  
Melaleptria " Grot PESP. 3 p. 53.

Hab Pa. (Hib) Gr Insect unknown to me except from Halders figure" Gr

villosus hairy

Melaleptria thal villosa Gr PESP. 3 p. 532. pl 6 fig 6 ♀

Ins pe 74  
fig 15 Coll of Mr Grot

Hab Colorado

? derm Eulacypitera (Gr) cumatilis Gr PESP. 4 p. 330. pl. 2 fig 6.

Ins pe 77  
fig 20 coll Ent Soc Phil

Hab Colorado (Ridings) Gr

note" allied to Anthocacia & Helothis but differing ♀  
see Gr PESP. 4. 330.

Ins pe 80  
fig 17 ♀ fm Gr fig

*Heliothrix laticeps* G. 103/12

*Heliothrix californicus* Grote  
In pl CXVI, fig 8. from Coll. of Mr. Gould

*Heliothrix*

-Hab. West Ind. specimen sent from Hayman's expedition  
In pl CXVII/9.





phlox cater

*Heliothis phloxiphaga* Gyr. Tr A Ent Soc. 1. p 187. Publ Prairie Farmers 1867 vol 19 p 219  
incorrectly "umbrosus." Pack quote 315.

Phlox worm. Dr Farm Riley

Egg deposited singly on all parts of the plant.

Larva taken by Mr Riley feeding on the Phlox.

Pupa formed in a slight elastic cocoon formed of sand or earth interwoven with silken threads.

In pl 67  
fig 118 (coll of Mr Riley)  
{ Chicago

Food Plant Phlox. Riley

allied to 16 dapsacea of Europe (Gr)

Cat Illin Colorado. (Gr)

*Heliothis marginidens* guen. Mys. p. Am Ent 1. 226.

(auth. Riley)

Larv. feed on Rose leaves. flowers & buds. also Poplar Willow & Smartweed.

SP. pl 16  
fig 9-10. N.Y.

Lar pale green covered with conspicuous black spots, Am Ent. (varies in color fig)  
Gns. deep rust color.

{ Same. Dr. pl 61. fig 14. see. *Volucella undulata*  
{ Some error.



"*gibos* San  
Xenos tip or snow-  
a ♀ paradox.  
a Craig seemingly absent.

*Helocheilus* (Gr.) *paradoxus*. Gr. PESP. 4 p. 325. pl. 2 fig. 4.5 Pack guide 3.5.

In pl. 80  
fig. 11. 13. fm. Gr.

Hab. Colorado (Ridings) Gr.

*Cordigera* Thun

*Anarta* (Huf.) ~~*Anarta*~~ ~~Sp. 1870. p. 140~~ ~~pl. 2 fig. 4~~ Mor. 0.

*Anarta* "genus is arctic or subarctic & inhabits alpine summits  
the pupa is enclosed in a cocoon of silk made with earth" In pl. 76

Pack. guide 81. fig. 21. coll. Est Soc Phil.

Hab. Can. (Gr Hf.) in Quebec. Bethune Can Ent. 1.87

Huntington 1868. 17.

? *picta*. black & white Anarta melanopa Becklin Gr. PESP. 3 p. 4. Mor. 0.

*twistis* Huf.

*superstrix* Huf.

*reducta* Smeets

*neglecta* Pack. Pl. Amer. Acc. abo Sc. 156

In pl. 94

fig. 7.

Mary. coll. of M. Sanborn

Hab. Mass (Sanborn)

Mt. Washington N.H. (Pack.)

? *lirios* white  
*archos*. curvus Anarta leucocycla. (Staud.) Gr. PESP. 3 p. 4 Mor. 0.

(Left) Sanborn

In pl. 44

fig. 6. Mary coll. of  
Mr Sanborn

Hab. (Mary) Sanborn

Mt. Washington N.H. (Pack. Pl. Amer. Acc. abo. Sc. 156.)

*Anarta* *fasciata* PK  
fasciata Huf

{ *A. maladecia* Becklin *A. amissa* Lefb. *A. algida* Sieb.  
" *taeoptera* Ehr.  
" *modesta* Huf.  
" *lycicula* Pack. Bac. 17.

Grote  
PESP. 3 p. 4.

*A. richardsonii* Custer  
double Mor.

*A. septentrionalis* Walk. } *A. constricta* Walk. } *A. regida* Walk.  
double Mor. } double Mor. }

*A. insipiens* Walk.  
double Mor. }

*A. cordigera* Sebaldt. *A. bimaculata* Walk.  
albivirgina Huf

fig. 2 in Nova Scotia } *A. acadensis* new sp. Bethune Can Ent. 2.64  
fig. 5 in Nova Scotia }

of Nova Scotia Birth Nat Socence  
of Halifax Sept 2 part 3. 1868. 9  
figured by Mr Jones

MENOPUS

Erastridae Guen.

*Epoptia* a color

? *dennisi* *Chromyris* (Guen.) *cerithica* Guen. Mor. 33.

*errantia* (B. & B.). Linnaeus. 1819. July 12. 19.

In pl. 61  
fig. 18. 9ma

Hab. Can. not uncommon (Saunders) Ned. (T.S.)



114a

Ear has yellow  
Tegor mung  
nigra black  
jimbora corolla

*Xanthoptera* (Guen) *nigrofimbria* Guen Mor 37.

Ins pl 56  
fig 6 Oct Georgia

Heat Ges.

resembles *Crumbus inornatus* of Clemens, coll in Est Soc Phil cabinet

semi half  
flavogolden yellow Xanthoptera *semicriocrea* Guen? Mor (X *Semicriocrea* Pack guise 316.)  
*criocrea* yellow " *semiflava* Guen Mor 37, is this the same? aff? Ins pl 57  
Insects found in the cup formed leaves of *the Sarracenia* by Mr Redings in Georgia  
Hub M.L. (S) Geo Redings Sova Plant Pitcher Plant Ins pl 58/21  
(placed by Pack directly after anatra. Before *Sarracenia*) 19 25 Ma.

Exyra, female  
*Xanthoptera semicriocrea* Guen pl 8 fig 3. Pack guise P. 316, see also fig Lar

Md.

" Mr A.W. Chapman of Appalachicola Fla. states in a letter to Mr Saussure that the Larva feeds on the leaves of the Pitcher plant, *Sarracenia*. It is red & cylindroidal with short black tubercles, on the side of each segment & a black cylindrical tube in each side of the 4 basal rays of the abdomen surrounded by fine hairs, it does not spin a cocoon but hangs loosely by a few silken threads within the pitcher plant leaf & the mouth is the only outlet that can get out of the bristly "Guarow" opening of the pitcher" Pack

60  
74 Ma.

*Xanthoptera rosalia*. Grote Desc. N. Am. Nac. 3. 295.  
Ins. pl CXVI. fig 12. from coll of Mr Grote.

Exyra

*Xanthoptera semicriocrea* Guen. fig 2 by Riley. in <sup>Pr. of</sup> Amer Science Association held at Harvard Univ. Sep. 1874  
Egg deposited singly near the mouth of the Pitcher plant *Sarracenia varolani* & *flava*. The young larva spins a web of silk which closes up the mouth of the pitcher shaped leaf. Leaves the cellular larva within commencing at the hood or lid, leaving only the epidermis. The pupa is formed in a very light cocoon usually just above or within the packed excrement at the base of the tube. - There are two broods, yearly one early in May & the second at the end of June. The larvae are semi-eaten. When adult are beautifully banded transversely with white & purple or lake red

was color  
in white

stone

Exyra Redingsi. Riley

77/22

of N. Saussure

*Eraeidea synocheiloi* Dr. M. L. F. Julian 23 ann  
Rep. 34. Cat. No. 116. No. 60  
sita Chasqui

*Callopusibia argentina* Walk. 85/10 Can Cuv  
1968

*Callopusibia mobilissima* Dr. M. L. F. Julian 23 ann  
Rep. 34. Cat. No. 116. No. 60

Erastricia apicosa Haw

spatula  
a row  
migr. black tubke  
exotic

Erastricia (Och) nigritula Guén Mor. 36

Maria gundulifera Malm. Mon. 39. G.R. Fr A.E.S. 2 p. 78.

"Larva of Erastricia 5 month banded with only 3 pairs of abdominal legs" Ins pl. 55 fig. 6. Md.

Eupa enclosed in a cocoon among leaves & moss." Each grise 316

Hab. Ma (G) Illus (Walsh) Fla (Mor) Can (Saunders)

Ins pl. 69 fig. 6. Md.

Ins pl. 69 fig. 7. Md.

? " Larva Erastricia of Europe has only 10 feet. + ab. Curtis. Amer. 2. 395.

muscular  
a little mouse.

Erastricia. Gr cor

Erastricia musculosa Guén. Mor. 36.

musculosa Gr cor

Spec. taken May Md.

Ins pl. 56 fig. 18. Md. Mag.

Hab. Md (G) Illus (Walsh) NY (Mor)

Ins pl. 69 fig. 29 coll. of Mr. Walsh G.

Erastricia Gr cor

caro canus flesh  
flesh colored.

Erastricia carneola Guén (Saunders list) each grise 316

" carneola Guén Mor. 36.

Ins common in pine woods. (Saunders Can.)

Ins pl. 53 fig. 10. Md.

Hab. U.S. (Mor) Ma (G) Can. (Saunders)

? Erastricia

resembles E. nigritula somewhat but much larger stout. H.

Ins pl. 60 fig. 14. Md.

Erastricia synochitis G.R. Fr A. Ent. Soc. 1 p. 357

Ins common June 7 July Brooklyn NY.

Hab. Mass to Pa. (Gr)

Erastricia muscosa G.R. Fr A.O.S. 1 p. 538.

Hab. NY to Pa. (Gr)

note " smaller than E. muscosa primaries bright green carmine color of transverse lines & ordinary spots & by the absence of the white subterminal line" (G.R.)

Leptonia

Leptonia Guén concinna Guén Proc. II. 239. Mor. 37.

Ins from coll. of Mr. Saunders (Can.) Ins. Pl. 85 fig. 11. Gomby

Hab. Fla (Guén) Can. (Saunders) Mor cat placed directly after Erastricia

Quadrupedidae Variegata

Eniopidae Guén.

Eniopus (Frelich) monotropa Guén pl. 14 fig. 4. Grölo F. S. P. 3 p. 542.

Callojastria Hü

? Eniopus argentinica (Maurib.) Mor. 35.

Ins pl. 47 fig. 4. Md.

Ins London Can rare. Quebec not uncommon (Saunders)

Ins pl. 59 fig. 26 coll. of Mr. Saunders

Hab. Md (G) Can. (Saunders) Can N.J (Groto)

Can

Allotropis rubricunda Guén 34 in A.E.S. 2. 78

Erastricia rubricunda Malm. " " "

110

spur mod  
now foot

moneta money  
fers to bear  
from the older  
books on my

ches beautiful  
spur a tige. Again.  
Widely  
posterior.



*Plusia* palpus ascending, maxilla very long, antenna simple, head crested, thorax creased behind, fore wings reflexed, with metallic spots. Lur. 120 feet. W. 97.

flavorous  
non  
varius brassy  
or copper colored.

*Plusia (Ochs) aerea* (Hüb.) Mor 35. Guen Pack quote 318.

See p. 55  
Fig 10 Mel.

Male Md.

Lar. semigeminate with only 2 pairs of ventral feet. Thru 2, 395.

"*Plusia* some may be occasionally observed during the day darting about & hovering over over long tubed flowers into which they insert their long spiral tongues." (Mor 2, 393.) frequently taken about dusk in Md.  
hovering over *Anthono* v. 136,

*Plusia brassicae* 95 Riley <sup>1869</sup> P. 110 fig SPJ. 108  
Fig 11 riley fig

Cabb age plussia.

Lar gnaws large irregular holes in leaves of Cabbage  
Pupae formed in a thin loose white cocoon in

sheltered situations especially in Cabbage.

{ L. very apt to die from disease especially in Cabbage.  
Note: description of Lar. &c almost exactly resembles  
*Plusia* pl 18 fig 2. found destroying cotton in the south

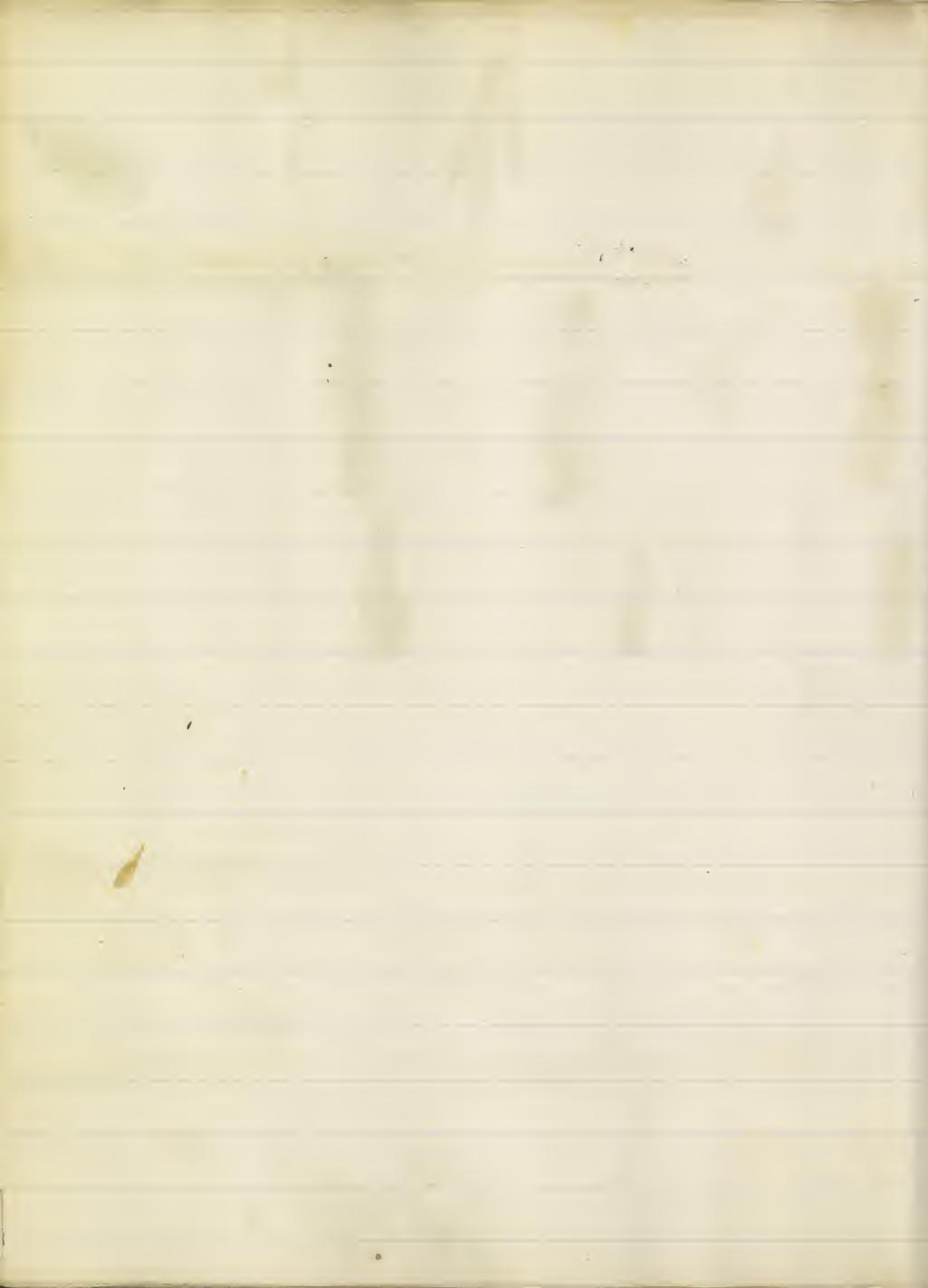
Parasite two mentioned Riley 2, 110 / L.P.J. prob. 18<sup>0</sup>?  
Remedies same as for *Pieris rapae* + Riley 2, 110  
breeding with checked acid Riley 2, 110

1869 h. 110

*P. brassicae* of Riley closely resembles P. ni Engs.  
which occurs in Europe & the northern parts of  
America also P. Leder of Stettin in Prussia  
to whom Mr. Riley gave specus. *Comulus* is distinct  
& therefore he has given it a name in accordance  
with its habits (Riley 2<sup>o</sup> Rep 1869 - 112)  
Remedies, same as for *Pieris rapae* & *Arenophorus*

*Plusia brassicae* Riley Betham Rept plant grower  
L. I. 109/11 Riley 2<sup>o</sup> Mo Rep 110  
Ann Entomol 1871 56

Remedy branching with a croscle marsh



festuca a stem  
or stalk.

*Plusia* <sup>concreta</sup> <sub>gr</sub> ~~var. diversa~~

*Plana* <sup>Irlanda</sup> <sub>17</sub>

Ins. pl. 53  
fig. 19 Mor.

Hab. W Am Europe (Mor) Md (Gr) Can rare (Saunders)  
Nova Scotia Bottnm

♂♂ vs. acute sharp  
♀ sparsa. latter.

*Plusia oxygramma* Guen Mor 36.

Ins. pl. 65  
fig. 24. coll. of Mr. Saunders  
Man.

Hab. Geo. (Mor) Mass (Saunders)

*Plusia aeroides* N.S. Grote P.E.S.P. 3 p. 83 pl. 2 fig. 5. ♀  
Bethnun To Nov Scot Dist 2  
♀ val 3 p. 541.

Ins. pl. 71  
fig. 8. coll. of Mr. Grote

Hab. not uncommon throughout East & Mid States (Gr. P.E.S.P. 3. 83.)  
Quebec N.Y. (Gr. P.E.S.P. 3. 541.) London Law rare. (Saunders) Nova Scotia (Bethnun)

*Plusia alticola* Wall Gr. P.E.S.P. 3 p. 92. Mor (Saunders) 36.

*Plusia ignea* Gr. P.E.S.P. 2. 274.

Ins. pl. 76  
fig. 10 Pk. Nots  
coll. of Mr. Ridings

"Innes closely resembles ♀ divergens of Europe Gr. P.E.S.P. 3 p. 92.

Hab. Rky Mtns (Mor) Pikes peak (Gr. P.E.S.P. 2. 274). Rky Mtns. (Ridings)

*Plusia montana* Pack guide p. 318.

Ins taken on the summit of Mt Washington N.H.

Hab. N.H. (Saunders)

Ins. pl. 94  
fig. 29. coll. of  
Mr. Saunders

mappa a nuptia

*Plusia mappa* G.R. In A.E.S. 2. p. 207. Can Ent 1. 87.

Hab. Can allied to European P. lota  
" Halifax N.S. Can. Bothnun Can Ent 1. 87.

*Plescia*

2 *Plusia ni* Herbst (with Grots)  
ni macta of Newman p 455  
Larva found feeding on leaves of Cotton Geo  
Hab. U.S. (Newman) Hab. (Geo) (Biley states this to be *Plusia brassicae*)

Pack guide 312 P.O. Ag Sep. 1854. 61  
" " " 1855. 90-91  
L.P. pl. 18. Fig. 2.

? *Plusia* Pack guide 312 P.O. Ag Sep. 1854. 61  
" " " 1855. 90-91  
Larva found feeding on leaves of Cotton Geo L.P. pl. 18.  
As this & the preceding specimen were either lost or destroyed when I left the Dept  
of Agriculture the species cannot be determined until new specimens are obtained.

*Plusia botraca*. (Ceyer) Mor. 36.

\* Larva described by Mr. Saunders P.C.S.P. 2 pl. 29. Spec. Inspl. 53  
on the Hop. Fig. 10. Ind.  
Hab. Md. (Md.) Can. (Saunders) Food plant Hop. (Can nat. 2, p. 35)  
It. Mr. Gmelin questions this description as all the other Larvae of *Plusia*  
are smooth (Gmelin's note).

precatio  
a major.

*Plusia precationis* Guen Mor. 36. Pack. guide 312 Lar. desc?

Whole Plur. Riley 2. 112

Larvae fed on Hollyhock. Aug (Saunders in Pack guide) Inspl. 60  
Puna 9th Aug. Fig. 16. Ind.

Hab. Md. (Can rare) (Saunders)  
Lar. differ from P. brassicae in having ~~thin~~ <sup>thin</sup> sides of loose pub. Hollyhock. Can. Saunders  
head thicker esp. at. Blush. See Riley dec. 2, 112. Thistle. Riley 2d Rep. 1869 p. 112

simplex simple

*Plusia simplex* Guen Mor. 36. Betham In Nova Scot Inst. 2

Inspl. 60  
Fig. 15-17. Ind.

Hab. Md. & S. (Saunders)

of the dead

*Plusia mortuorum* Guen Mor. 36.

Ins pl. 84  
Fig. 16 coll. 9th  
Saunders Can

Hab. Can rare. (Saunders)

2 *Plusia epigaea* Gr

Ins pl. 94  
Fig. 5 coll. of  
Mr. Saunders  
Mass.

Hab. Mass. (Saunders)

3 *Plusia*.

Ins from Nova Scotia in collection of Mr. Saunders - Can Ins pl. 46  
is very similar to pl. 94 fig. 3. fm Coll. of Mr. Saunders  
Hab. Nova Scotia Mass. See last sp.  
(Saunders.)

Ins pl. 19 coll. of  
Mr. Saunders

*Plusia cota* Linn P. maya Hill (Mo.) *P. thalictroides* Guen P. Ulbr. *brevis* Guen  
can. (Nova Scotia Betham)

*P. alceigera* Herbst { *P. amplexa* Wall. 2 Can  
Mo. } { *nova scotia* Betham. }

(111)

*Anomia xylostea*. (*Aletia angillacea* Hüb.) The cotton caterpillar or mo  
 Mr A R Groote of Buffalo in a paper read before the American Science  
 Association meeting at Hartford Conn 1874 Sept. states decidedly that  
 Mr Riley has made a mistake in his sixth Report where he claims  
 that the cotton caterpillar hibernates as a moth. Mr Groote says that  
 he has observed the insect for five seasons in Central Alabama & that  
 the earliest period he has observed the worm was the last week  
 in June to the middle of July & that the appearance of the worm  
 is always heralded by the advent of the perfect moth, which comes to  
 the lights in houses at least a week before the worms appear in the  
 fields. Hübner describes the moth as originally from Bahia Brazil  
 & it also destroys cotton <sup>also</sup> in the West Indies Mexico & Brazil -  
 Mr Groote believes the insects die with their food at the end of each  
 year in the southern states & its next appearance is due in every  
 instance to a fresh migration from more southern regions. He concludes  
 that the permanent residence of this insect is outside our cotton belt  
 that it is not indigenous but an annual, not a denizen but  
 a visitor, & that the agent of their destruction must be directed against  
 the first brood. That concerted action on the part of the planters  
 when the remedy is to be applied will be necessary. Mr Packard  
 has taken the insect in the eastern states Mr Groote Mr Harvey  
 in Buffalo & Mr Riley says it has been taken in Chicago. It is  
 probably follows the great coast line & the water courses emptying  
 into the gulf of Mexico as the moth is capable of making extended  
 flights. Mr Groote likewise remarks that the worm is always heard of  
 first to the southward of any given locality it comes as an army  
 from the south & the bands arrive successively as long  
 season lasts.

*Aletia angillacea*. Hübner. cotton moth - see *Anomia xylostea*

From the Proceedings of the American Association for the Advancement of Science,  
Hartford Meeting, August, 1874.]

ON THE COTTON WORM OF THE SOUTHERN STATES (*Aletia argillacea* Hübner). By AUG. R. GROTE.

THE earliest<sup>1</sup> scientific name for the cotton worm is given by Jacob Hübner in the second hundred of his "Supplement to the Collection of Exotic Lepidoptera," dated 1822. The moth is there figured in two positions under the numbers 399 and 400, and described under the name *Aletia argillacea* on page 32. Although the insect has subsequently received different names, this name of Hübner's is the one it should in future bear. For the name "*Anomis xyloina*," now in scientific use, I am responsible. In the year 1864, in the Proceedings of the Entomological Society of Philadelphia, I referred the *Noctua xyloina* of Thomas Say to Hübner's genus *Anomis*, as defined by M. Guenée, and regarded as synonymous the *Anomis bipunctina* of the latter author.

With the true type of the genus *Anomis*, the *Anomis erosa* of Hübner, I have since then become familiar, and I find that it differs structurally and generically from the cotton worm moth, which latter must accordingly remain under the combined title originally proposed for it by Hübner.

The different stages of *Aletia*, as it is found throughout the cotton belt of the Southern States, have been faithfully portrayed by Professor Townend Glover, of the Agricultural Department in Washington. On the Professor's plates numerous other insect predators on the cotton plant are excellently portrayed, and this work (I believe as yet unpublished) ought certainly to be issued by the Legislatures of the different states interested in cotton culture, or indeed by the General Government, and publicly distributed, so that a knowledge of the economy of these parasites be diffused. For his manuscript work, Professor Glover has indeed received a medal from the late Emperor of the French (a nation fortunately profuse in acknowledgment) but if I am correctly informed, no more substantial reward has as yet crowned Professor Glover's praiseworthy efforts for the advancement of knowledge and the consequent amelioration of his race.

In the Second Report on the Insects of Missouri, Professor C. V. Riley notices the cotton worm, and illustrates the moth by a

<sup>1</sup> I am indebted to Dr. Hagen for the bibliography of the *Noctua gossypii* of Fabricius. I believe this to be a distinct species from the *Aletia* and probably belonging to a different family.

woodcut, in which the insect is represented head downward in a state of rest. The moth is drawn in this position on the authority of a gentleman in Texas, and the subject is treated throughout, and indeed necessarily, by Professor Riley, at second-hand. In Professor Riley's Sixth Report (published this year) the cotton worm is again discussed under similar conditions, while the position of the moth in a state of rest has now become normal. It is however claimed, in this Report, that the cotton worm "hibernates" as a moth, and the credit of this observation is given to the Second Report, while the discovery of the fact is claimed to have been made by what Professor Riley calls the process of "analogy."

It is the object of the present paper to throw, happily, some light on the biography of the cotton-worm as it occurs in the Southern States, and in so doing I think it will become apparent that Professor C. V. Riley has regarded the same subject from an erroneous standpoint, having considered the cotton worm as belonging to our fauna, and accordingly misunderstood its economy as displayed with us and far from its natural abode. And here, while I am obliged to differ on a scientific question with Prof. Riley, I bear willing testimony to the great good achieved by the publication of the Missouri Reports.

The *Aletia argillacea*, or cotton worm, is an insect belonging to the Noctuæ, a group of nocturnal moths. It is one of a number of intertropical or southern forms, somewhat nearly allied to our more thickly scaled and northern genus *Plusia*. The caterpillar is a "half-looper," to use a common term, and the chrysalis is held within an exceedingly loose web on the plant, the few threads usually binding over the edge of the leaf and of themselves furnishing no adequate protection to the pupa. [I here exhibit to the Association specimens of the larva, pupa and moth of *Aletia*.] Technical descriptions of the different stages are already extant and so may be passed over here. The more immediate question for our solution is the consecutive history of the insect, so that we may be prepared to offer suggestions to the agriculturists for its destruction.

The region over which, during five seasons, I have observed the cotton worm, embraces the central portion of the cotton belt in the states of Georgia and Alabama, and in particular the counties of Marengo and Greene, lying along the Tombigbee and Black

Warrior rivers. There cotton is planted in March and April, blooms in June and July, and perishes in November or with the frost. The earliest period at which I have noticed the young worm was the last week in June, and its usual appearance was in July, sometimes as late as the latter part of the month. Its date of appearance was irregular, and never accurately coincided in any two seasons. Sometimes it seemed as though we were "*not going to have any worm at all this year,*" a remark suggested by hope and the tardiness of its advent. My observations have been mainly directed to the question of the origination of the first brood and have led me to record the following results. I have observed that the appearance of the worm in the fields was always heralded by flights of the moth, which came to light in houses at least a week before the worm was noticed on the plants. I have observed that the distribution of the first brood was irregular; the worms occurring here and there over miles of country, while infesting some plantations, skipping unaccountably others which the second brood, however, seldom failed to reach. I have noted that the worm was always heard of to the southward at first, and never to the northward, of any given locality in the cotton belt. Finally, after diligent search, no traces of the insect in any stage could be found by me during the months *preceding* the appearance of the first brood heralded by the moth, and *after* the cotton was above the ground. The broods themselves were consecutive and without interruption so long as the conditions were favorable. The last brood, in years where the worm was numerous, eat up every portion of the plant that was at all soft, flowers, the persistent calyx, the very young boll, the terminal shoots. The last brood of worms changed into chrysalides in myriads on the leafless stems, clinging by their few threads as best they might, and disclosed the moth in the face of the frost, many of the chrysalides perishing. Afterwards, on sunny winter days, I have noticed the live moth about gin houses and fodder stacks, or the negro quarters. Was this a true "hibernation" or merely an accidental survival? The locality and the condition seem to me alike artificial.

Now Hübner describes the moth of the cotton worm at first, as from Bahia. Sufficient testimony to the identity of our insect with one destructive to the West Indian, Mexican and Brazilian perennial cotton, is at hand and the fact is established. In a classificatory point of view, the affinities of the cotton worm are

with southern rather than northern forms of its family, as I have already pointed out. The conclusion to which I have come with regard to the cotton worm is, that *it dies out every year (with its food plant) that it occurs in the cotton belt of the Southern States, and that its next appearance is the result of immigration.* Testimony is at hand to show that for many years after the cultivation of the cotton plant was introduced into the Southern States, the cotton worm never appeared. The date at which it first appeared in Central Alabama has been differently stated to me, but it evidently but little preceded the late war. That the moth is capable of sustaining long and extended flight is readily proven. Professor Packard observed the moth off the coast of the Eastern States, as also Mr. Burgess. I have observed the moth in October in Buffalo, N. Y., as also Dr. Harvey. According to Mr. Riley the moth has been observed in Chicago, I presume in the Fall. It seems that the moth follows the coast-line northward as also the water courses that empty into the Gulf of Mexico. It is noteworthy here that the water-shed of the Ohio and Mississippi, extends to within fifty miles of Buffalo. As an example of the prolonged flight of moths, I will state, that I have observed in the Gulf Stream, off the Carolinas and out of sight of land, in the month of August, large numbers of a moth, the *Agrotis annexa* of Treitschke.

Again I have been struck by the absence of parasitic checks to the cotton worm in the south. I could never discover any, although such may exist. Spreading as I believe it to do, as a moth, the absence of peculiar parasites to the worm may be reasonably accounted for. I have already and elsewhere pointed out, that in order to make the first brood of the cotton worm the progeny of the so-called "hibernating" individuals (as Professor Riley would suppose), a period of several months has to be accounted for, since these "hibernating" moths could not wait till mid-summer to deposit their eggs; and while the cotton is young, and even before it is up, insect life is active, and the weather is warm and other vegetation fully out in the region of the South where I have lived. There is also no reason to believe that the cotton worm ever breeds in the North, and this, notwithstanding Professor Riley's suggestions to the contrary, in the Sixth Report before mentioned. The worm never has been noticed on any other plant than the cotton, and in the south perishes by thou-

sands rather than eat any other. The habit of wandering in masses when food fails is a proof of this, as while the worm is supplied with cotton leaf it never quits the plant, transforming to the chrysalis on the stalk which has furnished it nutriment. The wandering habit is not normal but accidental, and the worm is not "gregarious" like the "tent caterpillar." Its "hibernation" with us must also be regarded as accidental, or at least as barren of results. For when spring comes the *Aletia argillacea* has vanished, and is not found with the hibernating species of Lepidoptera, renewedly active. And if it were found in February and March, it would find no cotton plants upon which to deposit its eggs. If oviposition ever takes place in these months in the cotton belt, the young cotton, free from worms, disproves its efficacy.

It is possible that in the southern portions of Texas, or the Floridian peninsula, the *Aletia* may sustain itself during the entire year; I have no means of information on this point. My observations are made on its occurrence over the central and principal portions of the cotton belt and into which I believe it to be imported *de novo* every season that it there occurs and from more southern regions.

I conclude, therefore, that while the cotton plant is not indigenous to the Southern States (where it becomes an annual), the cotton worm moth may be considered not a denizen, but a visitant, brought by various causes to breed in a strange region, and that it naturally dies out with us in the cotton belt, unable to suit itself *as yet* to the altered economy of its food plant and to contend with the changes of our seasons.

When this fact is comprehended, it will simplify the process of artificial extermination by limiting the period during which we can successfully attack the cotton worm, and by doing away with a certain class of proposed remedies.

From the foregoing it will be evident that 1. The artificial agent employed to destroy the cotton worm must be employed against the first brood as it appears in any given locality during the progression of the moth northward; and 2. That, in order to be effectual, a concerted action in the application of the remedial agent in any given locality will be found necessary.

I also recommend the introduction of the English sparrow into the Southern States, and additional legal protection to insectivorous birds. Since the war there has been too much ignorant

use of the gun on the part of the negroes. All the birds should be protected as much as possible, for many species not usually considered insectivorous are yet found, during certain seasons of the year, to live on insects.

I offer the following as the synonymy of the cotton worm in scientific literature:

*Aletia argillacea* Hübner, Zutr. 3d Hund., S. 32, figs. 399-400 (1822).

*Noctua xylinna* Say,<sup>2</sup> Sec. Ed. Vol. 1, p. 370 (1859).

*Anomis grandipuncta* Guenée, Noct., Vol. 2, p. 400 (1852).

*Anomis bipunctina* Guenée, Noct., Vol. 2, p. 401; id. Vol. 3, p. 397 (1852).

*Anomis xylinna* Grote, Proc. Ent. Soc. Phil., Vol. 3, p. 541 (1864).

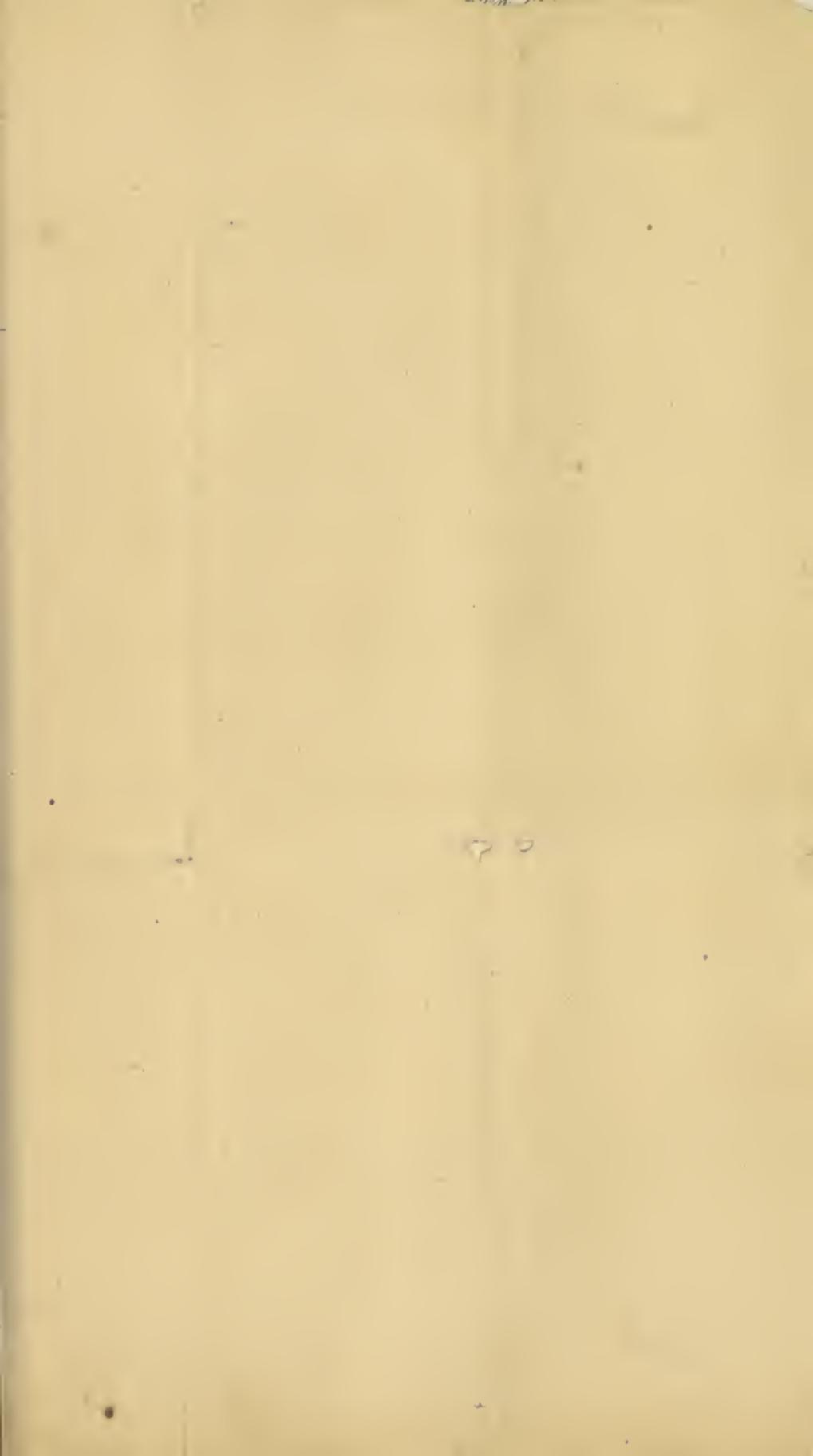
*Anomis xylinna* Riley, 2nd Mo. Rep. p. 40, fig. 13 (1870).

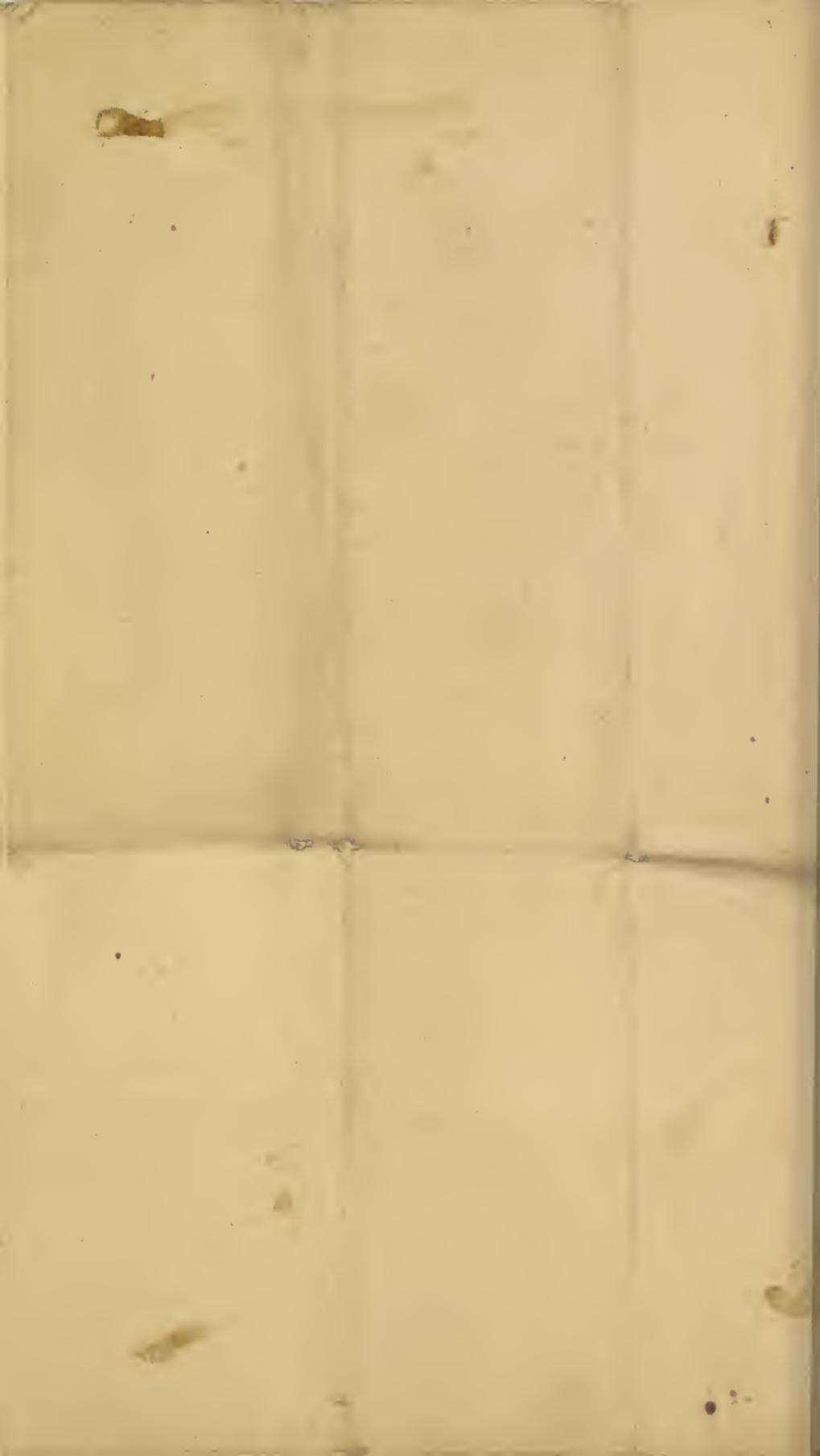
*Anomis xylinna* Grote, Rural Carolinian, 3, p. 88 (1871).

*Anomis xylinna* Riley, 6th Mo. Rep. p. 17 (1874).

*Aletia argillacea* Grote, List of the Noctuidæ of N. America, p. 24.

<sup>2</sup> In a letter to C. W. Capers, dated Nov. 1st, 1827. I do not know whether this letter is elsewhere published, but this question will not affect the synonymy here proposed.





am 2d 1p 210 Riley 2<sup>o</sup> Rep. 38

worms without  
spines shoulder  
*Xylotoma*  
collar

*Anomis* (Hüb.) *xylina* Say Grote P&S.P. 3 p. 541. Packard Guide 313.  
*Noctua* *xylina* Say 1827. Jay Eclogues vol 1 p 370. 1859. P.O. Ag Dep. 1855 p. 70 Har 467  
*Anomis* *bipunctata* Guen Noz 2 p. 1001 (1852) Walker CBM Lep noz p. 988 (1856)  
? " *bipunctata* Guen Noz 2 p. 400 Mor 34 Agricultural report of Patent office 9 monthly rep. Dep. Ag. 65  
*Ophiusa* *xylina* American agriculturist 1867 p. 443.

Cotton worm or Cotton army caterpillar Ins. Cotton fly or motti  
Egg I.D.C. Ins. pe 18 fig 14 Florida

Egg deposited single on other leaf stalk or "ruffle" of flower  
not to 600 eggs laid by each female that afflich in Riley 2<sup>o</sup> Rep. p. 38  
Lar make their first appearance in Aug (Fla) & continued until destroyed by the frost

The caterpillars of the first broods were mostly of a light greenish color in  
the later broods many dark colored or nearly black varieties appeared.  
which however produce the same moths as the green larvae. These caterpillars  
move from place to place by looping their bodies & do not crawl in the  
same manner as the caterpillars of the Fall worm *Heliothera armigera* p. 108 p. 193  
which destroys the bolls & the grass worm, or grass army worm of the South p. 100 pl 18 fig 5.  
which feeds upon the grass tufts between the rows of cotton & by this peculiarity of looping  
may be readily distinguished from other caterpillars less destructive

Pupa formed in a slight & loose web or cocoon spun in the leaf or among the  
neighboring weeds & bushes.

Insects appeared Aug & Sep until destroyed by frost } " always nests with red  
downy web (afflich in Riley)

{ never heard of this caterpillar feeding upon anything but } Food plant Cotton  
{ Cotton existing once when a Mississipi plant state he had } found it feeding into ridge sparingly  
the Packard places this directly after *Plutia* (p. 313) ? Mild Indigo

For more full account see Patent office Rep. 1855 p. 71

& monthly report of Dept. of Agriculture

Spec. green doubly striped with black on back & sprinkled with black dots from which come hairs 2<sup>o</sup> broad &  
some individuals darker & some very dark & yellow instead of green stripes. 16. feet 1<sup>1</sup>/<sub>2</sub> hair length imperfect  
causing it to loop somewhat like a geometer. 1.60.

*Anomis* - Am Ent. 1. 2. 42.

*xylina* by Lewis A Dodge. Am Nat. V. 213  
figure of cotton caterpillar (Army worm) taken from my figure of the grass worm or  
the southern states. This credit whatever given

distribution &c. see Nat. V. 52

Am Ent. . . . .

in piles of cotton seed under shelter under bark  
of forests. Other secure places it seems to carry but  
these it deposits in lat. 31° 3' in June  
in Spring (I. S. I. Harv. macmillan Mus. in Can Ent.)  
for these insects it is stated that "Genl. W. S. Brandon  
by manufacturing 15 ports barrels full of the caterpillars  
generally nests with red downy web (afflich)

*Anomis* *xylina*. fm communication fm Soc. Ent. see London.

" in 1788 there were destroyed 280 tons of cotton in the Bahama. They  
caused the cultivation of cotton to be given up in many of the West  
India Islands. The can was almost the same in Egypt in 1798 & 1800  
winter Georgia, in 1800. It ravaged S. Carolina, 4 years after.  
They were in Louisiana in 1825 they ravaged the whole south. state.  
It was very difficult to get seed for the following year. The army  
worm appears in Jamaica & other parts of S. Amer. Am Nat. " 1. 02

Riley, Riley 1858

" " signed by the S. I. Club

various - 2  
but 2. 74

*Anomis grandipuncta* (Guen) Bithum Am Ent. 1. 87

Taken in great numbers in cuba in 1865. Most uncommon in  
various parts of Ontario (Can Ent.)

Wab. Can.

c. Jan 1<sup>st</sup>

my common 111  
or vegetable insect

*Gonoptera Lebatini* Tenu. June 23 Ann Rep  
sys cat not in. 63

Light velvety green with a yellow stripe on each side shading beneath into brown. Length including on the head is a black stripe 1 1/2 inch in length.  
Lies on hollow pupa forming among leaves Drama tajilin with silk threads to which the pupa is attached by an anal spine  
pupa of fall brood 15 to 20 days

*Ampelopysa pyramidalis* Tenu.  
green from flutter grape worm of Baron 1st Rep  
Nax. Ind. Ann 1874, 86.

Lies on foliage Max Ind. Ann 1874, 86.  
Pupa may. formed in leaf litter with silk  
pupa state lasts 42 to 48 days  
food plants Grape Red bud poplar

Calpidae Guén'

Kathy an un.

*Catre* (Weiss) *canadensis* Kev? Chas TS Octobre 18 E S P 4. p 213 Can Ent 1. p 72  
Plusia *clonta* *purpurascens* Walk. GFR to AEs 2. 87. (Walk. Cat Proj May. 1865 Ent Soc Philad Feb 18. 1865)  
*braecia* *sobria* Walk GFR to AES 2. 87. Ent p 48  
*canadensis* Catre. 1/2 15 coll of Mr. Macdonald 24

Heb London Can. (Bethune) N.Y. Weidomeyer  
Mass. (Sauvage)

Das pl 68  
fig 15. call of Mr. Macdonald N.Y.  
Das pl 69  
fig 14 call of Mr. Sauborn  
May.

"it is worthy of notice that this is the first species of Culicis that has been found in north america & moreover the first representative of its family that has been discovered north of the tropical regions of this continent" Bethune P.E.S.P.L. 214

*trilobites rich  
brown, a few teeth*

*Glaucomys donata* compressifrons

Dow pl 76  
fig 13. coll Ent Soc Phil  
89/32  
92/7

*communis*. *comprimenta*  
*palpi*.

Wab Can rare (Pawndry)

? derio  
purple purple

*Hera purpurea* Walk. Saunders 61.

Hue Caw Saunders

## Gonopteridae Guén

σκυλίος  
a curve  
πτερύξ  
a wing.  
λαθνά  
a felucca.

Scoleopteryx (Germanus) libatrix (Linn.) Mor. 34 Betham In Nov. Seat. Inst. 2/1  
aberrans The Herald moth of numerous h. 458 Strips on each slender antenna  
I bright velvety green with a yellow stripe on each slender antenna  
with brownish wings particularly on the head & on See No. 52  
black wings. 1 1/2 inches in length. Feeds on Holloway Pr. 16. Med.  
Wat. Md. (S.G.) London Can. not uncommon (Saunders) Linnaeus 1869. Rep. 1045 Scabell.  
Nova Scotia. Betham

## Intrusae

*Camptotypa pyramidea* (Newton) Europa 416  
Known as the copper underwing feeds on oak } *Camptotypidae* Li, 1929

Lar fig. Amer Nat. 1. p. 225. Bishop 3<sup>rd</sup> Rep.

dug around  
up a pyre  
of water, fire  
pyramis  
a pyramid.

Hab. Md., (L.G.) Landon Can common (Saunders) 8 (OAK. Guin) Parplberry, Ralp.<sup>32</sup> Pa  
note the specific name *pyramidalis*, prob. refers to the pyramidal hump on the U. of segment of the L  
*Anthonomus pyramidalis* Guin varie on the poplar bark see (Am Ent)

remedy  
and pick up  
July 3d Rep. 73.

*Urophis pygmaea* *ornata* Gr. P. & P. 3. p. 86

— Ins very similar to pyramidalis Gr. Sprich var. of *U. pyramidalis* (L.)  
Hab. (see p. 181) can. East 2. 26 }

*Unguipura tragocephala* Linn. Secunder list Can Ent 2. p 73 desc. Sav 2.  
Mimic moth of England called from its colors or habit of variegated cloth.

more moth of rugae (either from its colors or habit of secreting itself  
Kab Can (Saunders) Lar. apple green with 5 white narrow longitudinal lines  
P. body is formed in a slight 'S' when broken having no  
feet to burrow in " as appears 3<sup>rd</sup> Aug. (Can) & very common 111  
Lvs. 3 plants Sprague Oct. 5 Satisfy or Negotiable costs







spes similaris  
super myri

*lunata*  
marked with  
a moon like spot.

Extensa  
Homopteridae Guén.

*Homoptera* *Bry*, *lunata* (Guén.) Mor. 31. Guén Park June 31.

Ins pl 55  
fig 22 Ma.

Hab Ma. (F) Can rare (Saunders)

*Homoptera* *edusa* Guén Mor 31 Guén  
punctatissima Guén Mor

Pack. Guén nat. W. 338.  
from San Miquelito 1244 ft  
Ins pl 53  
fig 4 Ma.

Hab Ma. (F) Can rare (Saunders)

oblique. *Homoptera* *obliqua* Guén Mor 31

Ins pl 61  
fig 29 Ma.

Hab Can (Mor.)? Ma (F)

\* a supposed var of this species Cat. Hist. Mus. XIII. 1054. is a rubbed spec of *H. mucronata* Bethune Cat. Ent. I. 71

{ calycautha  
asthen.

*Homoptera* *calycauthata* (Sm.) Mor 31. S&A pl 104

Brown & White marginated Moth (S&A)

Lar pl P  
fig 2

Ins pl 66  
fig 17, 18. fm S&A. fig 207.

Lar. mottled & mottled. dk brown  
of a light color & scattered with  
dk brown with lighter white margin  
of light wavy line on upper very parallel  
with margin & extending also across underwing  
and also fine with a light whitish wavy line  
from on upper margin & an oblique line near thorax etc.)

Food Plants Oak. Sweet scented Shrub or  
Carolina allspice. S&A.

*Homoptera* *calycauthata* Sm. Bethune Cat. Jour 1865. p. 251 according to Grout & Robinson is *Lathoniella* Hüb

blackish

*Homoptera* *nigricans* Rev. T. Bethune P.E.S.P. 4 p 213

Hab Can (Bethune)

*Homoptera* *Scudderi* Scudders. *Homoptera*  
Scudders. *Homoptera*  
Hab Can Bethune.

Rev T. Bethune P.E.S.P. 4 p 213

white stripes

*Homoptera* *mucronata* (Guén)  
Homoptera obliqua (Guén) Mor.  
rubra (L.) Eschsch. Mor.

*H. involuta* Walk. &  
double Mor.

*H. Contraria* Walk.

*H. herminoides* Walk.

*H. alba* (Scudder) Bethune

*H. duplicita* Bethune.



Erebus. ♀ green & *Erebus* (Latr) *odorata*. Drury Mor 31. Part aside 318.

*odorata*. a small or  
tiny, odor.

*Erebinae* or owl moth  
greenish brown 11 inches in wingspan  
met in Huron

In the specimen figured was taken at the Maryland Agricultural College about 9 o'clock in the evening by Mr. Galashanough one of the students & had somewhat injured itself by flying into the burning gas light. one specimen was taken by Mr. Sangermano of Toronto Canada in 1867. (Can Ent. 1. 88.)

16ab. Calif. Mex. Bohr School of Washington D.C. which he brought from Yucatan Jr. Acad Soc 3/23. this species must be rather common there

11ab. Md (Y.E) Can (Saunders) Yucatan (Dr. Schott) Texas (Mor)  
another Spec was taken by Mr. P. Bellings at Ottawa. (Can Ent. 1. 88.)

In pl 59  
Fig. C. Ma

### *Erebinae* odora. Goss Nat in Jamaica 234

I found chiefly in deep thombra woods if alights suddenly on a tree without hovering resting on a dark surface with horizontal twigs. It is thus not readily discovered. Sometimes one of these large moths is known to reside in a certain hole in a rock or a hollow tree to which it resort with such regularity that it may almost be with certainty aslodged on any afternoon by giving a sharp rap on the outside when air is ruddy with such a startling suddenness. Flight so irregular & zigzag a motion as often to defy capture. - found July or Aug.

? sp. height

*Ypsilia* (Guén) *acuminosa* Guen. Mor 42.

Hab. Md.

ammonous copper rust or verdigris color.

In pl 59  
Fig. 4. Ma

*Ypsilia* ?

In pl 59  
Fig. 5. Ma.

126

*Meleagris ochreifascia* Harvey 6 VIII / 18, 95/9

LimbataePotiniidae (Gün)? now  
young wings*Syneda (Gün) graphica (Gün)* Mor 48. (Nab.)

Ins pl. 76.

fig 9. coll Ent Soc Phila.

Hab. Geo (Morris)

Night

*Syneda Hudsonian* *Hudsonian Syneda* fig 7. & 8.  
*Hudsonian Syneda*  
*Hab. Hudson bay* Right

Ins pl. 78  
fig 23. fm G.R.

*Syneda Cawlandii* G.R. 4 p. 496. ♂ ad 3 p. 533. fig 6, fig 7 ♀  
*Cawlandia* *Syneda*

Ins pl. 77  
fig 25. Utah.

Hab. Utah. (G). Colorado (Ridings) Can. (B. thun) Can. Ed. 1.87 Ins pl. 80  
 fig 6 fm G.R. 95/8.

*Syneda ? Melipotis limbolaris* Geyer

Ins pl. 83  
fig 7. coll M.  
Saunders.

Hab. Can very rare (Saunders)

*Syneda ? Melipotis limbolaris* Geyer

Ins pl. 48  
fig 7. Phila.

? aff hudsonica

Hab. Ma. (73)

*Syneda* ♀?

Ins pl. 49  
fig 15. coll M.  
Grote

*Syneda* ? divergens Behr

Ins. fm. 1<sup>r</sup> & 2<sup>nd</sup> inst. taken in  
South U.S.A.

Ins pl. 102.  
fig 7.

aptly commencement or beginning  
esp. spring

Brephos. infans.

Archaeared infans.

Brephos hamadryas.

Pack 316. Brephos infans March  
ginea

Ins pl. 76

fig 4. coll Ent Soc Phila.

Brephos "lar smooth elongate with 6 legs through the first  
two abdominal pairs are used for walking since the  
larva has a semileeping gait." It flies on trees

Hab. Madras makes a slight cocoon in moss  
" Labrador N Eng. or under bark" Pack guide 816

" Labrad. N Eng. or under bark" Pack guide 816

Ins B. infans flies early in April before the snow has left the ground

Brephos orange underwing of new man 448

113.





*Eupanthenes*, ? *Catocala* *nubilis* Hab I ~~6/14~~ Mo 8 6 3/4 Mo  
 ? if *C amasia* Sch.

*Catocala* Sch. abbreviatella Gr. Kun. Cuy/12 Leu

*Catocala* Sch. arizonae Gr. Cuy/13

xax beneath  
xaxos beautiful

*Catocala* (Schränke) *amalnia* Hüb Mor Cat 32.  
 " *nervosa* Wall G.W. Tracy 2. p. 79.  
 " *nervosa walkeri* " "  
 " *S. cala* " " var " "

*Underwing*

Hab Md. (♂) Can. (Saunders)

Insp. pl. 63  
Fig 10. Ma.

*Catocala amicia* Hrb Mor 32.  
Androphila Guén

Conessa of Mor collection.

Insp. pl. 63  
Fig 11. Ma.

Hab Md. (♀) Canada (Saunders)  
? is this *allotria elomyntpha* in p. 121?

*Catocala amasia* Sm. Mor 33. S.Y. pl. 90. Guén  
 ? *Parthenos nubilis* Hüb Mor 44. (Edwards auth) Har Cor. found on ground under Robinia P. 319  
 Yellow underwing looper moth L. Y. L. pl. 1  
*Parthenos* { *nubilis* L. S. <sup>lives in holes of the trunk of Robinia pseudoacacia & comes out at</sup> May 2<sup>nd</sup> S.Y. & C. <sup>Fig 5. Fair S.Y. as Campana</sup>  
*myrmeleon* <sup>lives in holes of the trunk of Robinia pseudoacacia & comes out at</sup> May 2<sup>nd</sup> S.Y. & C. <sup>Fig 6. Fair S.Y. as Campana</sup>  
 Ins appeared May 28 Geo " <sup>Fig 7. Fair S.Y. as Campana</sup>

Hab Md. (♀) Geo. (342) ? Can (Can Ent. 188 Good plants Oak & Pine of China  
Parthenos nubilis Locust (Har Cor.)

note Mr Linnaeus writes that this figure does not correspond with Guén's description  
 ? *Parthenos nubilis* Hüb } <sup>scandentes, with 3 undulating black transverse bands</sup> A marginal series of confluent round black spots, Rotham (Can Ent. 188

*Catocala sabina* G.Y.R. P.E.S.P. 6. pl. 22. pl. 1. fig 1 ♂

Insp. pl. 65  
Fig 28. coll. of M. Sauborn  
Mass.

Hab Mass. (Auburn) N.Y. R.J. Pa (Grote)

Insp. pl. 71  
Fig 29. coll. of New Grote N.Y.

*Catocala cara* (Doubled) Mor 32.

Insp. pl. 70  
Fig 30. coll. of Mr Grote

Hab U.S. (Mor)

*Catocala corogama* Fr. coll. Guén  
 " *corogama* Guén. Mor 32. & Saunders list

Insp. pl. 58  
Fig 34. Ma

Hab Md. (♀) Can (Saunders)

*Calocala mina* Griseb. No. 63/12

*Catocala consors* S&A Mor 32. S&A 87.  
Common American yellow Underwing S&A.

crosses or consort

Lar spun among leaves Apr 29<sup>th</sup> May 22  
Ins appeared June 7<sup>th</sup> & June 16<sup>th</sup> Geo.

Lar pl D  
fig 3, fm S&A  
Ins pl C  
fig 21, fm S&A.

Food plants False indigo Oak Wax Myrtle Vicia  
Hab Geo (S&A)

*Catocala clintonii* ♀ Grote PESP 3. p 87. pl 3 fig 4  
Clinton Catocala

Ins pl 80  
fig 21, fm Grote fig.

Hab Eastn I. (Grote) London Canada rare (Saunders)

concombe.  
to live together

*Catocala concumbens* Walk. Mor 0 Betham Tr Nov Scot Inst 2/

Larva described by Saunders PESP 2. p. 29. Inspl 70  
fig 19. Coll of Mr Grote

Hab Canada (Saunders)  
Nova Scotia. Betham

Food plant Mallow

fratercula  
a little brother

*Catocala fratercula* Grote PESP. C p 24 pl 4 fig 3. ♂ moro

Ins of un frequent occurrence (Gr)

Ins pl 81  
fig 6, fm Grote, fig

*Catocala orataigi* Saunders

Hab N.W. Rhode Island. (Gr) Can. (Saunders)

Ins pl 87  
fig 2, coll of Mr Saunders  
Can.

formula beauty?  
or a rule.

*Catocala formula* Grote PESP. 6 p 27 pl 4 fig 53 Mor 0

Inspl 71  
fig 1 coll of Mr Grote

Hab N.Y. R. & Ia (Gr)

resembles *C amasia* of S&A but differs in detail (Gr)

*Catocala* gray now (Cramer, Mor. 33.  
" nuptula Walk. G&K vol 52. 179.

58/23 Md

Inspl 71  
fig 2 Md.

Note. This specimen resembles *C polygama* of the British museum see  
next page.

*Calocela lineella* Gr. 104/11 Ziem.

*Calocela polyzama* Gr. 87/3 Jan.

*Catocala*

Ins. from collection of Mr. J. Curtis, Knoxville Tenn.

Ins. pl. 104  
fig. 11.

gracilis

*Catocala gracilis* Edwards

Ins. taken near Quebec &amp; Ottawa by Mr. Bowles

Ins. pl. 77  
fig. 3 Coll. of M. G. Mate

Hab. Can. (Saunders)

? via or Troy

*Catocala ilia* Cramer. Mar. 39.

Larva found feeding on Oak Md. in April

Pupa formed under leaves &amp; rubbish in box.

Lar. pl. 19  
fig. 16. Oak Md. Ap.

Hab. Md. (JG) Can (Saunders)

Ins. pl. 63  
fig. 2. Md.minute or very  
small*Catocala minuta* Edwards. Gr. PESP. 6 p. 25." no species of Catocala varies so much as *C. minuta* (Edw.) all its varieties can be readily traced however, after a proper study of its specific characters" Gr.Ins. pl. 64  
fig. 31. Md.

Hab. Md. (JG)

? said by Lintner not to be the true *C. minuta*riparian  
newly married*Catocala neogama* S. & G. Mar. 32. S&G pl. 88Lar. pl. 9  
fig. 8. fm. Syria

Great Yellow underwing S. &amp; G.

Ins. ~~pl. 10~~ MaLarva when not feeding stretches itself upon the body of the tree at full length & resembles the bark so much in color as not to be readily discovered. Spun 12<sup>th</sup> May (Geo.) Lar. not uncommon Can. (Saunders)  
Ins. (appressed) June 12 (Geo.)

Ins. pl. 7, 1/4 coll. of Mr. Grote

Food plant Black Walnut S&amp;G

Hab. Md. (JG) Geo. (S&amp;G) Can (Saunders)

*Catocala nupta* Ins. one million. Lintner 1367. Ref. 1145 Col.ponderous or massy *Catocala ponderosa* G. & R. PESP. 6. p. 23. pl. 4 fig. 2 ♀Ins. pl. 81  
fig. 3. fm. G. & R.

Hab. Illin. W. Va. (G. &amp; R.)

" resembles the description of *C. nebula* (Edw.) but differs (G. & R.)

nodes many,

rarely to marry.

*Catocala neogama* G. & R. Mar. 33. (See also *C. grynea* p. 115.)  
Lar. described by E. B. Reed London Ontario Co. Can. (in Can. Ent. 2 p. 38) pupa formed in a slight cocoon made by drawing together 2 veins of thorax. Ins. appeared July 29<sup>th</sup>  
Hab. Md. (JG) Can (Saunders) Ins. (Can. Ent. 2 p. 38) ~~1/2~~ Maneogama resembles *C. grynea*. pl. 63 fig. 12

Food plant Thorn. Can. Ent. 2 p. 30

*Catocala frater* Guen Lar on hollow  
 J. CXV.15. Lentner 23 Ann Rept N.Y. & cat nat his  
 coll. *Lentner* *64*

*Catocala strigata* ? Bohn

authority of Mr Gratz.  
 Specimen from Dr Palmer border of  
 Arizona & New Mexico

J. CIX }  
 2 }

*Catocala*

2 Specimens taken by Dr Scholl H.

Ins pl 102  
fig 15macularus  
very clear or bright*Catocala praeclara* Gr PESR 3 p. 25, pl 4, fig 4♂Ins pl 51  
fig 14 coll of Mr Grote

Hab N.Y.

phalanga  
a smooth club or lever*Catocala phalanga* Gr PESR 3 p. 80 pl 9 fig 1.Ins pl 72  
fig 18. coll of Mr Grote.

Hab Mid Stats (Gr)

\* Possibly a variety of *C. palaeogama*. *Guen* } (Gr.) see below  
*palaeogama* Mor 32 }Mahay's old  
yapew to many*Catocala palaeogama* (Gr) PESR 3, 540 Mor 32.Ins pl 72  
fig 16. coll of Mr Grote.

N.Y. (Gr), Hab. Can (Saunders)

note ♂ *palaeogama* of the British Museum belongs to *C. peintrix* Gr.

inflator or atoms

*Catocala peintrix* Gr PESR 3 p. 88. pl 3 fig 5. ♂ vol 3 p. 522.Ins pl 71  
fig 10. coll of Mr Grote.

Hab Mid &amp; East N.Y. common (Gr)

Select

*Catocala relicta*  
var ~~relictata~~ (Linnaeus) Mor 32.Prov var " *americana* P. 113. pl 6 fig 10.\* ? " *relictata* (Linnaeus note)Ins. some of the specimens are much lighter color  
than that figured

Hab Pa.

Ins pl 76  
fig 19. Coll Ent Soc Phil\* *C. relicta* of Doubleday is from Nova Scotia. & see Bethune & Nov Scot Inst 2

serenus serenus

*Catocala serenus* Gr PESR 2 p. 510.

Hab Pa

Ins pl 70  
fig 14 coll of Mr Grote.*Catocala* ?

taken by Mr J. Curtis at Knoxville Tennessee.

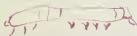
Ins pl 107  
fig 19aut. natus born  
nata in daughter also*Catocala subnata* Gr PESR 3 p. 826 pl 40 fig 1.  
? pupae (or imm. Mor 32)Ins pl 61  
fig 7. coll of Mr Grote

Hab Mea (Gr)

Ins pl 80  
fig 22. Grote figAllied to *C. neogama* (Sva) (Gr)

Catocala desperata Guen. ♂ 63/8

Catocala strigula Behr



*Catocala*  
Ins. taken by Dr Palmer border Arizona & Mex. pl. 103  
1869. pg. 73

gasterous markings *Catocala scintillans* ♀ Gr. 412 P. ESP. 6 p. 28. pl. 4 fig. 6.

Hab. U.S. (Gr.)

Ins. pl. 81  
pg. 5 from Grote, ig.

*Catocala ultimaria* (Hub) Mor. 32. (Grote authority) Pack. Guide 317. for Lep. pl. 8. 4a

Larva feeds on the *Caudia plana* (Pack)  
Tuna formed in an earthen cocoon July 15. Ins. ap. 2<sup>nd</sup> Aug. Ins. pl. 44  
Hab. N.Y. (Grote) { Can rare (Saunders) 169/11 2 103/15 Lar. pl. 100  
? var. yellow underwing 217 pg. 22 from Coll. of Dr. Schott. Lep.  
authority Grote in 1 from Coll. of Dr. Schott. Lep.  
Coll. 1873.

Individuals  
harvested over  
undivided

*Catocala viduata*? S. & G. pl. 91.  
" " viduata Mor. 32  
prob " despectata Guen. (Linton's note)

Lar. pl. 10.  
pg. 7. S. & G.

Black Underwing S. & G.

Ins. pl. 82  
pg. 22 N.Y.

Larva open 18<sup>th</sup> May (Geo)  
Ins. appeared 16<sup>th</sup> June ("")

Food plant Oak (S. & G.)

Hab. Geo (S. & G.) Ma (G.) Can (Saunders)

*Catocala* ♂ epione Drury

Ins. pl. 70  
pg. 14 coll. of Mr. Walker  
Stein

Hab. Illin. (Walker)

*Catocala* ?

Ins. pl. 87  
pg. 3. coll. of Mrs. Saunders  
Can

Hab. Can. (Saunders)

affinis. *Catocala nuptialis* Walk

First sent by Mr. Allan Crotter from Kansas.

Ins. pl. 45  
pg. 45 Kansas.

Hab. Kans (Crotter)

? *Catocala*

Larva taken on *Mahonia* Oct 6<sup>th</sup> (Geo) by Mr. Moller.

Hab. I.C. (Gr.)

*Mahonia*

Lar. pl. 21  
pg. 11 *Mahonia* Col.  
(116)



*Catocala relicta* Doubled, Morris 33

Hab Nova Scotia Hamilton Can (Can Ent 2. 35.)

{ *Catocala parta* Guen. *C. unijuga* Wall. *C. uxor* Guen. *C. crux* Drury  
 is *C. amatrix* of Macf. GNR trans 2. 79) Doubled. Morris

*Catocala antonymptha* Hst. *C. briseis* Edwards *Catocala* Wall. Morris

\* *Catocala laniata* N.S. Gr. PESN 2. p 508.

Hab Rhode Is. N.Y. (Can) Saunders

*Catocala murmurata* Hst. Gr. PESN 2. 508

Hab Yreka Calif. (Gr.)

*Catocala Malishii* N.S. Gr. PESN 2. p 508

Hab Sutton Min. (Gr.)

*Catocala nebulosa* N.S. Gr. PESN 2. 510

Hab Phil. Washington (Gr.)

*Catocala californica* N.S. Gr. PESN 2. 510

Hab Yreka Calif. (Gr.)

*Catocala tristis* - N.S. Gr. PESN. 2. 511

Hab N.Y. Pa. (Gr.)

*Catocala similis* - N.S. Gr. PESN. 2. 511

Hab Rhode Island

*Catocala parvula* N.S. Gr. PESN. 2. 512

Hab

*Catocala menula* N.S. Gr. PESN. 2. 511

Hab N.Y.

*Drastrenia carulea* Grate.

Sp. CVI.  
1 fm coll of Mr Grate

Serpentinae  
Ophidiidae Guén.

Parallelia

opposita prop name

? *Ophiusa (Ophiusa) bistrigata* Hüb. Mar 33. Betham Fr Nova Scot Inst 2.

latin.  
bis bistrigata

? *Paralellia* " Hüb Fr J.A.E.S. 2. p 79.

? *Poaphilia amplissima* Malm Fr A.J.A.E.S. 2. 70. & 79.

*Ophiusa bistrigata* Hüb " annals Can Nat 2. 150.

Lar pl 19  
fig 10. Mid Aug Maple

Larva found on Maple Aug. Md

Insp 59  
fig 10. Mid Aug

Pupa formed in rolled up leaf

" when about to go into the chrysalis their jaws cut through a portion of a leaf of the tree on which it had been feeding & turning it over, causing a long little case fastened it up close. I carefully watched its transformation after remanding about 2 weeks in the pupa state the imago appeared (Scudder Can Nat 2. 150.)

Hab Md Da (J.G.) pupa state the imago appears (Scudder Can Nat 2. 150.)

Maple Silver acer dasycarpum

Eudictiidae Guén.

ex. well  
behavior (asmall)  
key 3  
curvis a point or  
spur.

? *Eudictia (Ochs.) cuspidea* Guén Mar 34

? " *designata* ? Ins. mus.

Insp pl 61  
fig 30. Mid Aug

Hab Md (J.G.)

" *Eudictia Eurota* { larva semi geometrical with only 2 pairs of ventral feet quite vermiform in appearance & have the habit of burrowing themselves in all directions. Mar 2 to 395 fig 108/17

I passipp  
a servant

? *Mastaria (Hüb.) ericacea* (Benth.) Guén Mar 44. Betham Fr Nova Scot Inst 2. Mar Cat 175. 318.  
? " *ericacea* Guén Mar Cat. Guén " ericacea. Leidse 1. 89. Rep. 119. S. Cat.

Larvae very abundant (Md) in Clover fields & readily taken by beating the herbage with a sweep net. June.

Insp taken March & April (Md) one of the first matthes on the wing in spring

the spring brood always several sizes smaller than the autumnal brood (Can Nat 1. 206)

Good plant Clover

Lar pl 9  
fig 5. 20. Clover Mid June

Insp pl 16  
fig 2. Mid Clover Aug

Hab Md. (J.G.) Canada common (S. Saunders Can Nat 1. p 4. Nova Scotia. Betham

agricola one who  
tills the ground,

? *Mastaria agricola* Gyr Fr A.E.S. 1 p 189. pl 4, fig 34 ♀

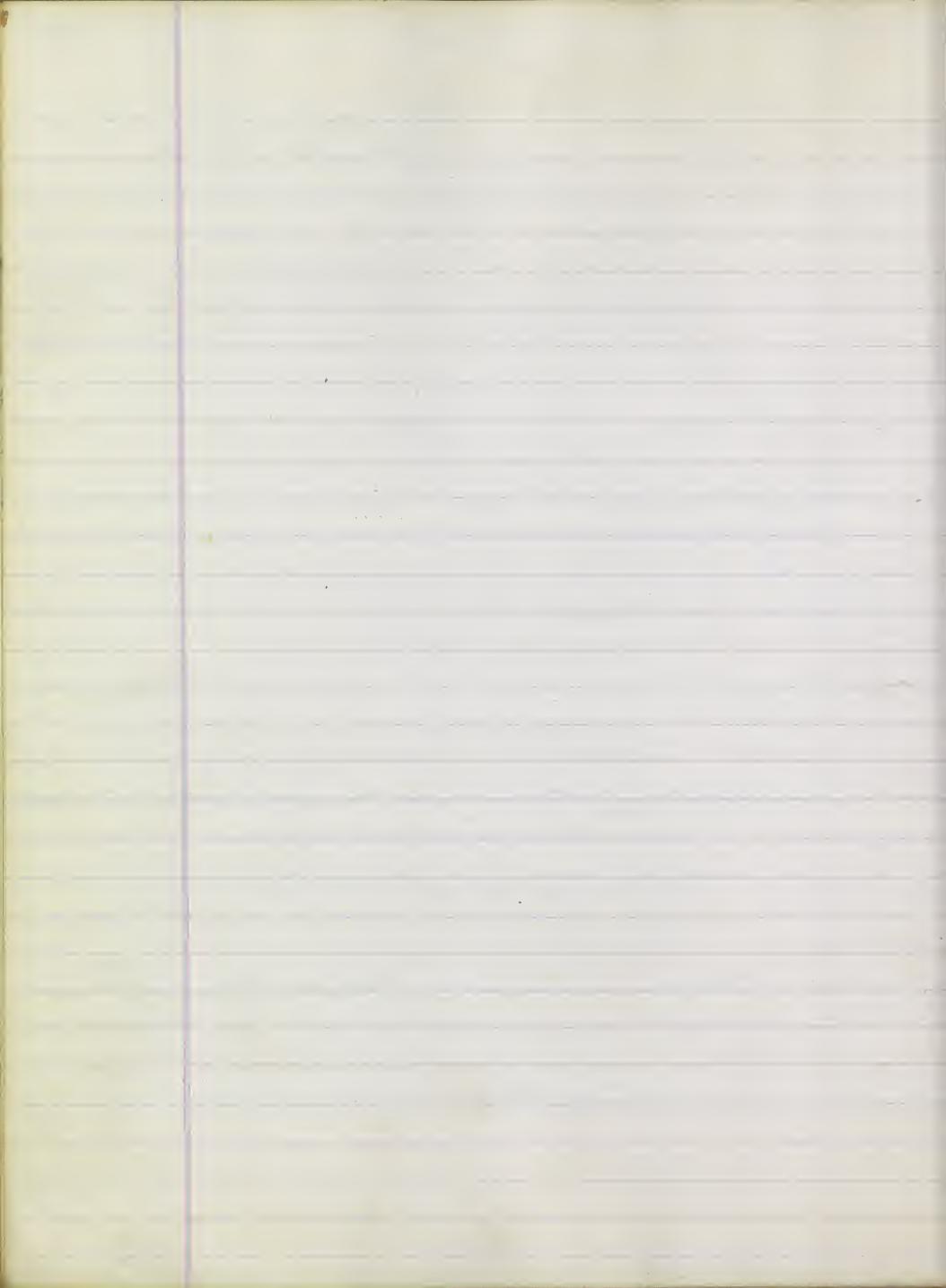
Hab Mass to Pa (Gyr)

Insp pl 81  
fig 11. Fr Gyr fig

mundula near ornata *Mastaria mundula* Gyr Fr A.E.S. 1 p 191. pl 4 fig 35 ♀ (117)

Hab Pa (Gyr.)

Insp pl 86  
fig 5. Fr Gyr fig



## Romigidae Guen

tao rayos all }  
taos foot. }  
*Panopoda* (Guen) cressoni Guen Grate PESP vol. 1. — pp 846 pl 3 fig 4  
Cressoni Panopoda

Ins pl 67  
pg 56 Grote lg

Hab Cau (Saunders) not common. Md (Grote)

*Panopoda roseocosta* Guen Mor 45.

roseus very  
color side on edge

Larvae extremely active & nimble but taken readily by  
gaining young trees in Sept? (Md)  
Ins appears the following spring above may  
Food plant Catz.

Lar pl 13  
pg 13.14. Catz Sep. Mdn

Ins pl 59  
pg 52 Mdn

Ins pl 64  
pg 7. May

carnous  
flesh color

*Panopoda carneicosta* Guen. Mor 45.  
*Scaphula scissa* Walk. GKR 2 Vol. 8. p. 70. 1888

Ins pl 59  
pg 14 Mdn.

Hab Md

ab.

*Panopoda*

Ins pl 59  
pg 13 Mdn.

her. rubrum red

*Panopoda rubricosta* Guen Mor 45.

Hab Cau. (Saunders)

? deni  
Hab -

*Romigia* Guen marciata or desseverans Guen Mor 45

*Romigia latipes* Guen Cau Est. 1. 88  
Hab Cau, for history see 178

♂ 85/40  
♀ 85/2

*Romigia hexastylos* Harvey

J. 59/13 Md 85/41

*Ablepharon evanida* Griseb. No. 20  
3 x 4 cm. Dif. sp. and in his 28  
Leyden Mus.

*Ablepharon evanida* ♂ Griseb Bull Buffalo Soc. Nat Sc. 1. 112.  
In pl CXVI, fig 22. Fin Coll of Mr Griseb

*Ablepharon evanida* ♀ Gr. J. CXVI, 22.

Where place?

*Acontia* (*Ochs.*) *erastrioides* Guén Mor 33.  
Sarache *erastrioides* GVR Tr. 285 2.78  
name of segment later  
resembling erastria

Ins pl 64  
fig 1 coll of M Sanborn  
May.

rapidly confusion  
apricus sunny or  
during the sun

*Sarache* (*Hab.*) *biplaga* Guén. Mor 39.  
*Acontia* *aprica* Hrb. var. GVR Tr. 285 2.78.

Ins pl 61  
fig 17 Ma.  
Ins pl 69  
fig 34 coll of M Walsh  
Hab Illin (Walsh)

Hab. Mel. (Hab) Stein (Walsh)

We are disposed to regard *A. biplaga* as of *Sarache aprica* Hrb. (GVR Tr. 285 2.78)

*Acontia*?  
Sarache?

Hab Pa. (Wilt.)

Ins pl 74  
fig 20 coll of M Wilt.  
Stein

*Sarache* Hrb *aprica* Hrb  
*Acontia*? *aprica*  
Sarache?

Hab Illin (Walsh)

Ins pl 69  
fig 35 coll of M Walsh  
Stein

in fls, trouble *Cledia* (Hab) *pullens*. ♀ GVR PEST 6 p. 21. pl 5 fig 2.  
*pullens*,  
pale in grain pale

Hab Texas (GVR)

Ins pl 71  
fig 7 fm GVR.

Growing black or dark *Cledia* *nigrescens* ♀ GVR PEST 6 p. 20 pl 3 fig 4.

Hab Texas. (GVR) Ma 3C.

Ins pl 58  
fig 18 Ma var.  
Ins pl 78  
fig 5 GVR fig

affinis *Cledia* *arrholalena* Ledenote, Morris.

Insect sent by Dr Palmer from the Chickasaw  
nation.  
Hab Chickasaw nation. (Palmer)

Ins pl 95  
fig 6 chickasaw  
nation

affinis *Cledia*

Insect sent by Dr Palmer from the Chickasaw nation  
Hab Chickasaw nation (Palmer)

Ins pl 95  
fig 9 Chickasaw  
nation

1812

*Agnomonia* directly after Mar. 3.

*Poaphila* *Sendui quadrifilaria*? Sans. coll.

Ins pl. 106  
fig. 78.

147

a without  
yrs. or yrs.  
a judge or examine  
not in Agno.

*Agnomonia* (Hib) *analis*? Young Guen Mar 30.

*analis* Am Ent. 2 p 26.

Hab Md. (St) Lar. violet white with longitudinal rows of lines Ins pl. 59  
on elevated brown ridge across segments 4 & 11 fig. 14 Md.  
(resembles *Poaphila* of Biol museum) *Sabbata* of Gray or American Centaury. Ann.  
Pupa enclosed in a few leaves. Am Ent. 2/27.

*Spraguea*.

axpos field  
pilos friend.

*Agraphelia* (Bilo) Leo Guen Mar 35

Ins pl. 56  
fig. 2 Florida 24.  
Spine.

See a lion

Hab Fla. Md. (St)

Ins pl. 44  
fig. 17 coll. of M. Grata

*Spraguea*

*dama* & fallow deer *Agraphelia dama* Guen. Mar 35

Ins pl. 56  
fig. 3 Florida 24.

Hab Fla. (St)

118 144

Euryphria heterogynphaea 163/1. Dr Palmer Lower Calif.

Harveya. aumpennis Grati. Bull Buffalo Soc Nat Sc. 1.126  
Plas pl Cxvi. fig 15. coll of Mr Grati

Xd'ay. herbaceous  
arb's. flower

ramulosus full  
of spurs n little bracts

*Cloanthia* (Guen) *romulosa*. Guen.

Hab. Md.

Ins pl 61  
fig 2 Md.

*Cloanthia* ?

Hab. Fla.

Ins pl 55  
fig 18 Md.

xephio's ornament  
quiescens

*Cosmoptilia* ? Bird museum.

Hab. Fla.

Larva found feeding on Okra Sep. Florida  
in garden of Mr. Wiley S. Blocker, Tallahassee  
10. Sep. webbed up 22? & came out as pupa  
winter 12. Oct. 1855

Ins pl 15  
fig 6 Okra Fla. Sep.

dis twice  
nirpoft wing

*Lypterygia* (Steph) *piniastri* Linn Grade PEST 1. p 218

pinaster a mild pine tree

Mor. O.

Hab. U.S. Europe (Grote) Md (JG)

Ins pl 60  
fig 5. Md.

Edos a marsh  
rufous nymph

*Ephesia* Hüb *elonympha*. Mor. O.

Larva found Sep. Md. on Oak.

Hab. Md.

allied to Catocala

Lar pl 2  
fig 9. Md Oak.  
Ins pl 63  
fig 13. Md.

vulvirostris  
made of glass

*Hyalinoides* *virgata*

virgata dotted or striped.

Larva found feeding on Walnut Md. Sep.

Lar pl 13.  
fig 28. Md.

Hab. Md.

Mr. Riley states that he recognizes this figure as the caterpillar of  
*Hyalinoides virgata*. (Riley's letter.)

Hypsocephala monilis Tab 4/7, Cal.

Ommatostola Lentneri Grato Bull Buffalo Soc Nat Sc 1. 126.

Inse C XVI. fig 16 coll of Mr Grato

? Noctua) *Heteroglyphica*.

In. said by Mr Sanborn to be a new genus. - the specific name of which is *Heteroglyphica*.  
Hab La paz. Sp. sent by Dr Palmer from la paz (border Calif. & US) Ins pl 103  
7 fig 7

? dim. *Cyphocala* ?

Larva found in Florida feeding on the Persimmon Oct.

L.P.D. pl 15  
fig 11. Fla.

Cub. Fla.

under wings resemble catocala or synecia.

2805 height  
popos beans

*Oryctes rotundata* hormos G.H.R.  
Monogona (Guen) hormos. (Guen) Mor 32

Lar pl 13  
fig 1. ? Oak Sep. wet in leaf m.

Lar pl 13  
fig 2 Persimmon 3rd July

L.P.D. pl 15  
fig 7. Persimmon Fla. Oct.

Larva found Fla & Ma. Oct & July feeding  
on the persimmon

Food plant Persimmon Ins pl 48  
" " Oak. ? Fig 10. Md. (poor spec)

Hab Geo. (Mor) Ma Fla. (Fl)

? dim

*Ingrura* (Guen) delineata (Guen) Mor 32.

Ins pl 57  
fig 8. Md.

Cub Ma.

beautiful

*Ingrura* *panamensis* (Heck)? Mor 0.  
oculatrix Guen

Ins pl 51  
fig 33. Md.

Cub Ma.

? dim  
elongated

*Giemitus* (Grote) *elongatus* Grote F.E.S.P. 3.85 pl 2 fig 6.

*Remyia decissa* Walk. G.H. & Q.E.S. 2.88

Ins pl 59  
fig 7. Ma

Hab East n. & Mid States not uncommon (Gn) Ma 38.

" Infer this genus to M Guen's poaphilidae" Gn

chionanthus plant *Phataena*? *chionanthi* S & A pl 98.

Gray O moth S & A.

see Verhaer & d'ita G.W.

L.P.D. pl 11  
fig 1 fm S & A

Ins pl 66  
fig 11 fm S & A.

*Phataena chionanthi* ? fig 38. 196  
gray o moth  
bottom Chionanthus virginicus  
leaves. Single line or 2 or more broad,  
black marks on each. Head & 1st segment yellowish  
rest dark olive grey. lighter near body on upper margin  
an o like mark of white on mid wing.

Food plant Fringe tree v. Chionanthus.

Hab. Geo. S & A

*Pholometra serricornis* ♂ Grote Desc. 1th Ann. Noe. 3. 369.

Ins pl CXVI. fig 20. fm Coll of Mr Grote

*Pronubia* (Riley) *yuccella* Riley Riley, 5<sup>th</sup> Rep. <sup>new</sup> 1873, 150  
*yuccella* motta.  
 Fig  
 Ins said by Riley to fertilize the flower of the yucca  
 in order to afford edible seed pods for the young caterpillars  
 eggs deposited in the seed pods in June & July  
 one, two generally two but sometimes half a dozen from  
 young caterpillars live on one seed pod when fully  
 grown the larva bores a hole through the capsule  
 drops by a web to the ground and forms a cocoon  
 of earth lined on the inside with Hyalinate  
 as larva in the earth. The following June the  
 perfect fly makes its appearance when the yucca are  
 in flower. I.R. Ins CXVII. 18. No.

found on *Muscoso angustifolia* Colorado  
 " " " rugulosa Texas  
 " " " Whipplei Calif  
 " " " flammulosa I.D.

*Spiloloma lunilinea* Grote - Bull Buff Soc. Nat Sc. 1.127.  
 Ins pl CXVI fig 21. fm coll of Mr Grote.

*Trachea pumiperda* Europe. (Lepidoptera Borges  
 → destroyed by *Phryganodes pumiferda* Europe  
 Hymen sc pl 10 fig 38.

*Tarache flammea* Grote  
 Ins. pl CXVI. fig 9. fm coll of Mr Grote.

*Tarache terminimacula* Grote

Ins pl CXVI.  
 2 from Mr Grote Collection

? den. *Protella* ? Malts.

*Tar. inquinatus* in Gall *Salis brassicoides*  
Hab Illin (Walsh)

Ins pl 69  
fig 16-15, 16, coll of  
Mr. Malts Illin

? den. *Entilia*  
*Glycynous* (?) *pulcherrimus* Gr. P.E.S.P. 4. p 396

Ins on trunks of Hickory trees

Ins pl 81  
fig 14 from Drawing cut by  
soil plant ? Hickory

Hab Hoboken N.J. (Grate) Moller & Hochstein.

" allies to *Entilia* Hub. belonging to Mt. Guineé, fam Euryipidae (Gr.)

o-Kiros  
americana

*Ichnia* (Hub) trifascia

Ins pl 69  
fig 20, coll of Mr. Walsh

Hab Illin

Trachea  
Brachae.

*Trachea* Hub. ?

Ins pl 44  
fig 31, coll of Mr. Saalborn  
Mass.

Hab Mass. ?

rapax<sup>1</sup>  
confusion  
caudata made up hot Ucontia (Lich., debilis) Walsh. { Mor (Double) 33.  
or set on fire

*Tarache* candeacta. (Walsh) Gr. Tr A.E.S. 2. 78.

*Tarva* found feeding on *Ragweed* Aug Sep Ma.

Hab Florida (Mor) Fla (L.) Illin (Walsh)

Ins pl 66  
fig 3 Ind.,  
Ins pl 69  
fig 46 Walsh  
coll.

detected chosen

*Tarache* detecta Gr. Tr A.E.S. 2. 78

*Acontia* metallica Grate. 588.

*Acontia* detecta Walsh p 779. (Gr.) Gr. Tr A.E.S. 2. 78

Ins pl 74  
fig 20, coll Ent Soc Phila

Ins Species figured by Smith & Abbott on  
*Hibiscus Palustris*.

Hab? Geo. (S.G.A.)

Food plant prob. *Hibiscus Palustris*.

*Tarache* candeacta Gr. Tr A.E.S. 2. 78  
Lep. L. *Tarache* *Hibiscus palustris*  
from S. *Hibiscus* *malvaceus*

*Hibiscus* *malvaceus* sp. *Acontia* *metallica* ?

119

(45-191)



*Ufurus plicatus* Grati  
84/19

Bull. Buffalo Soc. Nat. Sc. 1. 102  
fig. pl. CXVI, fig 10. From coll. of M. Grati

*Ufurus* - Sp. 89/25

? doris Hale horrida Heib. in Tr. A & S. 2 p. 79.  
error Homoptera calycanthata Walk & N. Bellamy (in) GTR Tr A & S. 2. 79  
horrid frigidae

Inspe 61  
fig 26. Ma.

Bar. Md. (S)

This is not Guenée or Abbot & Mills' species H calycanthata & does not belong to Homoptera. GTR Tr A & S. 2. 79

*Phlaeotess* sp. ♀ Pal. BM Nat IV. 229  $\frac{2}{11}$ .  
Lar. sects. on Coccoptes  
from unpublished figures of Dr. Abbott

*Tortricodes* (affinis)

J. 43/22 fm (N.Y.)

Acontia lyplaga Gau. 3x1/17

Cenostoma coffeatum Am. Ent. VI. 896 & VII. 48  
panurus 2 chneumonous <sup>Eulophus Cenostomatis</sup> &  
varaci live in the mines Boracoculifer

Cenostoma albella v. S Chambers Coneyton Ky. in  
L Minis in leaves of poplar Am Nat. VI. 589  
& C. coffeatum ab.

Cenostoma coffeatum (Bickman Mann)  
<sup>♂</sup> (Mason) Am. Nat. 6 p 332  
Elaeochita coffeella Guerin Menville  
green Rypes a marble & Stipes a mouth  
the hair on the nose of its face being so long as to cover  
the mouth,  
Caterpillar lives in the leaves of the coffee tree  
where the injury done by it is shown by the  
presence of rust colored blotches on the upper surface  
of the leaf, these blotches are sometimes almost  
black in the center  
the pupa is formed in a slender white cocoon  
covered with its own web may easily be found in  
a fold of the leaf, in larva mines in the leaf as many as five to eight  
mine being found on one leaf Am. Nat. 6 p  
332, fig. 1 p 340 but last fig p 332

Cosmia ornata Guen Lined on oak June 20 pup 24  
84/10  
Larva feeds on oak. Ins. pl CXVII/16

158

Genera in Morris's Catalogue not in other lists  
arranged Alphabetically

- <sup>sp. soft or oily clothing.</sup> *Nivastola* (Oehl.) <sup>ovalis</sup> or ovalis Guen 184.7: Mor 35. 88/25 Can
- <sup>anthropos, Foreign,</sup> *Uvularia* (L.) <sup>strobilifera</sup> Guen Mor 43  
<sup>Catocala</sup> amica Wall. # 1842. 2552.79.
- <sup>arpozita, a burning or lucid oil.</sup> *Mothracia* (Hubn.) coracia or cornix Guen Va. Mor 42
- ? den. *Quantesia* (Walk.) radicans L. Walk. Mor 24.  
<sup>Arctea.</sup>
- ? den. *Bankia* Guen olevacea Guen Mor 37.  
<sup>anthrophica</sup> Bdo.
- ? den. *Basilodes* (Guen) pectula Guen Ila. Mor 35
- myth name *Bordetia* (Hub.) lenina Guen Mor 33
- ? den. *Polina* (Duf.) all Jamaica St Domingo &c. Mor 43
- ? den. *Taenurgia* (Guen) purgata Gaubl. Ila Mor 44
- <sup>exiles beautiful</sup> <sup>esp. for wings</sup> *Caliptera* (Guen) faustula Guen Mor 44.
- ? den. *Galyptis* (Guen) iter Wlm? Guen Mor 35
- <sup>exiles flexible</sup> <sup>esp. for muscle</sup> *Camptorhiza* (Guen) amelle Guen Mor 45.
- <sup>aquatica</sup> <sup>Xeris pleasing</sup> *Chrysiptera* (Guen) festa Guen, Carolina. Mor 37  
<sup>esp. for wings</sup> Polina Bdo.
- Caradrina* multijuga Walk. Benthum Can Ent 1-85. Hab Can. Nova Scotia. Can Ent
- <sup>esp. for wings</sup> <sup>esp. for review</sup> *Caradrina* (Oehl.) tarda Guen Mor 40 Caradrina placed by Benthum bet Hydropsyche & Agrotis
- ? den. *Cissus* (Walk.) spadix crass. Va. Mor 29.
- <sup>esp. for wings</sup> <sup>denominated</sup> *Cosmia* (Oehl.) omnia Guen Mor 30.
- Cosmia trapezina*, (Europe) fam. lays her eggs on leaf. Thornthwaite. The larvae abroad in may & although doubtless feeding on leaves they seem to prefer animal food devouring well great quantities the larvae of other Lepidoptera particularly those of *Chenopodias* burinata. ( Newman Entomology. Vol 2. 19)
- ? den. *Crypsides* (Guen) borealis exilis or gelata Labrador Guen Mor 39
- <sup>esp. for wings</sup> *Dactyloctenus* dianthus } oixos. habitats in hirsute }
- Diaethria* (Guen) capsularis Guen Mor 30.
- Rhopis propulsaria* Walk. C.R. 2 # 185. 78.
- Diphyllzia* pinastri pl 60/5. hirsute many nests of Newman. 286. food dock in Europe
- ? den. *Eupunda* (Duf.) ouychina Guen Mor 38.
- ? den. *Galgula* (Guen) subparita or hispana Guen Mor 37
- ? den. *Glottaea* (Guen) trimis Guen. Mor 38.
- 120

*Morrisonia vomerina* Gr. 45/18 md  
*Schinia trifascia* Reub. 8 6xix/20 Walsh

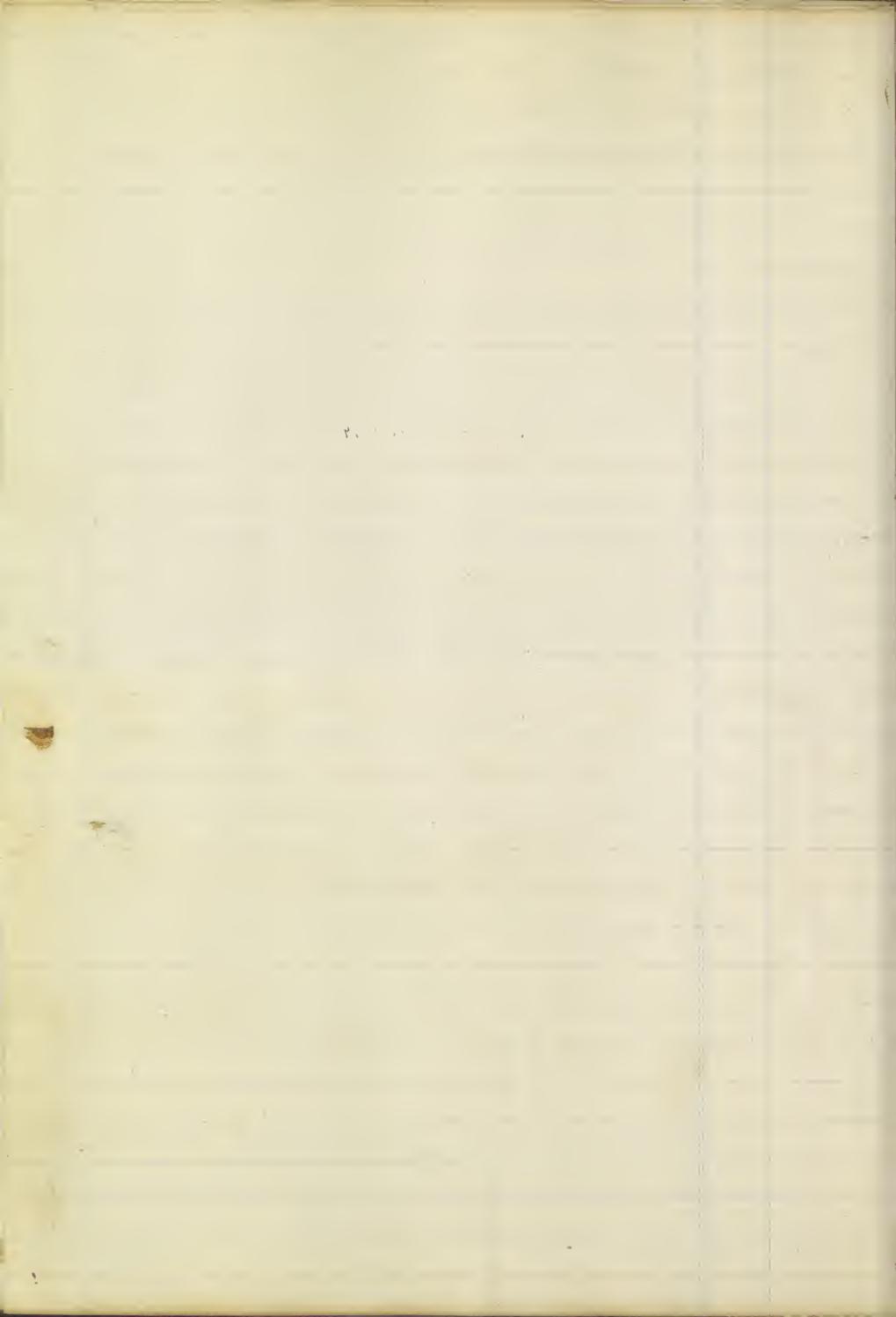
*Adita (Phalaena) cheonanthi* Sva — 9 66 f<sub>4</sub>

*Protella* Walsh — 9 4x1x/14, 15, 16

*Phloiotria longilabris* Grote J.W. 4x1x/17 Ins

*Polyptychus quadrifasciatus* Sulz. May 31.  
Larva 3<sup>rd</sup> instar 4.5 mm. width 2 mm.  
Teeth black

- latifrons  
 tenuis.  
*Hopalia* (Hes.) *mexicana* Doubled. Mor 40
- spines sun  
 gobs fear  
 qui half  
 tebas horn.
- Hecatera* (Guén) *canadensis* Guén Fla Mor 37  
~~*canadensis* Guén~~
- Heterophobus* (Guén) *pimburae* Guén Mor 39.
- Hemicia* (Guén) *cadmia* Guén Mor 36.  
 or *ampla* Doubled Can.
- exwires  
 autumnal.
- Hesperina* (Guén) *hesperidago* Guén Mor 41
280. under  
 papaya a little
- Hypogramma* (Guén) *andromedae* Guén Mor 42.
- 100s equal  
 yurru angle
- Ingrata* *decolorata* Guén 47/8
- Iogana* (Guén) *naturix* Guén Mor 45.
- ♀ denot *Gepidomyia* (Guén) *coronata* Guén Mor 35.
- antios slender
- Leptosia* (Guén) *concinna* maculata Guén 14. Mor 37.
- Bryophilida (Tiegs)  
 Anthophila (Tiegs)
- myth name
- Ictis (Guén) *specularis* Hüb Mor 31
- 100s a lobe  
 100s ring
- Lophoptera* ♀ (Guén) *pygmaea* Hüb Geo. Mor 43.
- ? Aroda  
 maturity
- 100s the inside  
 yurru angle
- Mesogonia* (Boisd.) *cuica* Guén Fla Mor 30.
- 100s small
- 100s small  
 good reader
- Micro* (Guén) *minima* Guén Mor 37
- Microphyga (Bois.) *sobria* Doubled Mor 37.  
 Ophula Jn
- 1 pair
- Monodes* (Guén) *nudicolora* Guén Mor 40 Florida
- Nostra
- Lar June grayish gray with a faint rusty tint in the incisives ♀?  
 when young larva quite gregarious & almost entirely defoliates the plant on which it feeds
- Naenia* (Stephens) *typica* Doubled. Mor 34. Hab Can. (Betham Can Ent. 1.87)
- Naenia* can ent.
- Hab Europe, Caw. (Betham Can Ent. 1.87.) (Naenia. Can Ent. betam Syneda & Anomia.)
- Food plant Docks & Mallow herbs Can Ent. 1.87
- ♀ denot
- Olistogonma* *comicalis* Walk Mor uppu 64
- ♀ denot
- Parsula* (Guén) *inconstans* ♀ *semigibba* Guén Mor 18
- spines brown  
 250s a wavy
- Pterigia* (Guén) *xanthioides* infelix (L.) or *signosa* (W.H.S.) Guén Mor 40
- Phaeocyma* (Hüb) *unifera* Hüb Geo. Mor 31



1586

*Cymatophila camplaga*  
*Leptina cornuta*  
 " *lachnella*  
*Syngophila spectans* ♀ *tiratenuata*  
*Microcalia velutata*  
*Aeronychia fasciata* ♂ *Leporina imitata*  
*Balsa obliquifera* *insta superans*  
*Mytilinua de color*, *contraria* *bipunctata*  
*Leucania straminea* ♂ *diffusa* *virgata* ♂  
*Nouagria intraductilis* ♂ *Multilinea*  
*Gordyna rutila*  
 " *nequestris*  
 " *manguiensis*  
*leucophaea* & *flavago*  
*Hedraea* *leucocaula* ♀ *ligata* *immanis*  
 " *longistigma* & *salicarum*  
*Hypolethes villosa* ♂ *Signata violans*  
*Xylophiasia* *verbascoidea* ♂ *endocleis*  
*Lamprospilus* *luteotricha*  
*Sagittaria* *marina*  
*Phaonidia brasiliensis* ♀ *objeta* *dubitorum*  
*in insula* *innotescens*, *inspirata*, *indivisa* *mirificata*  
*Elaphrius modestus* ♂ *insignata* ♂ *discrepans*  
*Elaeagnes* *multiflora* ♂  
*C. punctata* ♂  
*Agrotis subgallica* *obtusoides* *fennica*  
*Acutata*, *lesellata*, *ordenata* *relicta* *undulata*  
*A. innotincta*, *sparsa*, *fratricida* ♂ *illata* & *obliviosa*  
*Sphaerolites* *ravida* *syropoda* ♂  
*Euphydryas* *aurelia* ♂ *lubricia* *beckeri* ♂ *saturnia*  
*Ornithodes* *sardous*  
*C. aucheri* *ciliocides*  
*Xanthia* *luteolana* ♂ *fernuginea*  
*Polyommatus* *scudderii*  
*Canaris* *herbida* *occulta* *intrigera* *minibosa*  
*Habenaria* *stenosperma* *tenebrifera* & *contenta*  
*Xylena* *contraria*  
*Cucullia* *camosulfiae*  
*Oria* *sanguinea*, ♂ *Alaria* *volupia* ♂ *sch.*  
*Leptopteryx* *perspicula*  
*Chloridea* *versicolor* *mod. lutea*  
*Uropteryx* *subflexa* & *Herrania* *stellata*  
*Moleculinia* *luna* ♂ *tabacum*  
*Clethra* *spuria* ♂  
 " *pyralis*  
 " *laciniata* & *temperata*  
*Quarta* *festosa*  
 " *magellanica*  
 " *americana*  
 " *algida*  
*Rothschildia* *clavis*  
*Sephulcrosia*  
*consticta*  
*repanda*  
*impugnans*  
*concreta*  
*triplicoides* & *quadridens*

- ? den *Panicangustifolia* Seminaria or negatibis Brach. Mor 45 appendix 80
- ? den *Phunus* (Gün) vinculum. linia. f. Gün Mor 44
- ? den *Poapulix* (Gün) dicta sylvarum 885 Gün Mor 44
- polypharne* many, peris to show  
Polypharne (Gün) herbacea. Gün. Mor 37.  
Polia Ochs.

? den *Fimbristylis* (Wall.) liburna Doubled. Mor 33.

oxotricha a diff rock;  
soja body. *Scoparia* (Curtis) sedus Gün Mor 41

? den *Siarana* (Wall.) reranda <sup>Wall</sup> Doubled. Mor 34  
belong to the Phalaenidae. Gyn. Gras 2.79

raima stripes  
zapping catapiller. *Tucumocampu* Gün alia. hirsuta. f. Gün Mor 41

? den *Dianthus* (Wall.) antica Double Gyn. Mor 33.  
Notodonta minor

Gipping heat *Ther medea* (Gün) spicoides Gün Mor 31

5 toes  
politus or graceful *Xestia* (Hub) chloroptera. Hub Gyn. Mor 41.  
Lanthus Ochs.

Zale . horrida Hub.

EXH LXI/26 No

Jarache



158d



158e

*Pyralidae* Leach from Westwood.

* <i>Hypena</i>	* <i>Pyralis</i>	<i>Eurhynoptera</i>
<i>Macrochila</i>	<i>Hypsophygia</i>	<i>Mesographia</i>
<i>Pectinifraga</i>	<i>Agrotis</i>	<i>Margantia</i>
<i>Paracolax</i>	* <i>Sinella</i>	<i>Nascia</i>
<i>Aethria</i>	<i>Anania</i>	<i>Cynaetes</i>
<i>Colobochyla</i>	* <i>Euclystis</i>	<i>Noctu.</i>
<i>Synapte</i>	* <i>Pyrausta</i>	
<i>Cleodoria</i>	* <i>Hypocampala</i>	
<i>Campylochila</i> .	* <i>Endrosis</i>	

\* note. *Sinella* is the only genus figured which is not mentioned in Morris' Catalogue or Saunders' list.

Saunders' list

<i>Holtoidea</i> . Latr.
<u><i>Hypenidae</i> H. Sch.</u>
<i>Hypena</i>
<i>Formissa</i>
<u><i>Cerminidae</i></u>
<i>Blptina</i>
<i>Cerminia</i>
<i>Celia</i>

<i>Pyralidae</i> Staint.
<i>Pyralis</i>
<i>Aglossa</i>
<u><i>Emychidae</i> Dap.</u>
<i>Pyrausta</i> .
<i>Eriogaster</i>
<i>Adofudae</i>
<i>Gesmia</i>
<i>Samea</i>

<u><i>Hydrocampidae</i></u> Guén
<i>Cataclysta</i>
<i>Margarodidae</i> Guén
<i>Leucochroma</i>
<u><i>Botidae</i></u>
<i>Botys</i>
<i>Eubulea</i>
<i>Pionea</i>

Morris' Catalogue

<u><i>Holtoidea</i> Latr.</u>
<i>Hypena</i> Schrank.
<i>Rivula</i> Guén
<i>Cerminia</i> Latr.
<i>Blptina</i> Guén
<i>Celia</i> Guén
<i>Rena</i> Guén
<i>Clanya</i> Guén
<i>Formissa</i> Walk.

<u><i>Pyralidae</i> Guén</u>
<i>Phacellura</i> Guérin
<i>Pyralis</i> Linn.
<i>Aglossa</i> Latr. <sup>and Pyrausta</sup>
{ <i>Rhoecaria</i> Guén <sup>Emychia</sup>
<i>Botys</i> H. Sch.
<i>Botys</i> .
<i>Pyrausta</i>
<i>Neophylax</i>
<i>neopelta</i>
<i>caerulea</i>
<i>clara</i>

<u><i>Pyralidae</i> cont.</u>
<i>Gesmia</i> Hüb.
<i>Samea</i> Guén
<i>Urophia</i> Guérin
<i>Hyalea</i> Guén
<i>Agathodes</i> Guén
<i>Isophyra</i> Guén
<i>Stenia</i> Guén
<i>Parthenodes</i> Guén
<i>Spilomela</i> Guén
<i>Clinioides</i> Guén
{ <i>Margaronia</i> Hüb.
<i>Margarodes</i> Guén
<i>Honyodes</i> Walk.
<i>Botys</i> Walk.
{ <i>Eubulea</i>
<i>Botys</i> Latr.
<i>Homophya</i> Guén
<i>Ionica</i> Guén
<i>Asciodes</i> Guén

<u><i>Pyralidae</i> cont.</u>
<i>Scopula</i> Sch.
<i>Myrphula</i> Sch.
<i>Megeyna</i> Guén
<i>Galeria</i> Lat.
<i>Hydrocampus</i>
<i>Calactys</i>
<i>Parapontyx</i>
<i>Sonathes</i>

158f

Polydinae

- Hypena ceculalis*  
*Litoprosopis pygmaea*  
~~C. Melanocia erubens concusa clavigerella~~  
*Metachrostis acutis*  
*Peria decolorata*  
*Clavigera angularis*  
*Monochroa effusalis*  
~~Trichoplusia ni~~  
*Trichoplusia ni*  
*Theracna phalaenoides*  
~~Wessia funeralis~~  
*Saturnia lucivaria*  
*Lesbia leucosticta*  
*Myalea obsoletalis*  
*Leptotricha monostriata designata*  
*Septiferus apicalis*  
*Sinna rufalis*  
*Parthenocles xantholeucus*  
*Clinodes opulalis*  
*Margaronia quadriguttulata*  
*Leucophlebia recensalis*  
~~Protypus oxydalis~~  
*Acrocasia*  
*" rufalis cyclopis*  
*" leucalis*  
*" vesticalis*  
*Hoplodrina eximia*  
*Crambus monostriella*  
~~C. Euhadra pueralis~~  
*Hadrilla muricata*  
*Homophylax glaphyralis scriptalis*  
*" evanalis polydactyla diomae*  
*Pionia venosalis*  
*Uresiphita intermixta*  
*Spilodes helvolalis*  
*Scopula albistrigata*  
*" orasensis*  
*" rubigalis thoracalis distincta*  
*Nymphula seminalis*  
*Parapontia ulconalis*  
*Hypocrita canipa*

Dermatinae

- Microcera punctaria*  
*Microserica causticaria*  
*Neuroterus ilicis*  
*Hyperlachys alienaria*  
*Ectopatria Ectropis agrestis*  
*Ectropis agrestis*  
*Melanoeca pectinata*  
*Ellophila paucaria*  
*Ellophila paucaria*  
*Ellophila paucaria*  
*Eurytome calyptraea*  
*" fuliginosa*  
*Metacoma caliginea galba*  
*Anaplecta*  
*Ceratonyx galatana*  
*Siaton aeraria*

Acleridae

- Amorpha unitaria*  
*Agapeta phizaliaaria*  
*Bacchmia monanis larvaria canadensis*  
*" sublunaria & cantaria*  
*Septentriona crinifera*  
*" anticaria*  
*Paraptilia leptanaaria subatomaria nubecularia*  
*Sinistrarchaea approximaria*  
*Ornithogalum pyrolaria*  
*Clerodora luteola divisaria distinctaria*

Geometridae

- Geometria sacrificia* ♀ *Jodis suctilaria*  
*Rachocampa leucania*  
*Stigmella ignoraria*  
*Oporinia oblitata*  
*Aploctena flauana*

Acciodesidae

- Acciodes insulicola* ♀ *anticaria juniperaria*  
*Amansia curvifemuraria*  
*Torga abata* ♀ \*

Macaridae

- Amictus trapezoidata*  
*Macaria qualitata subapicaria*  
*C. Spilosoma* ♀  
*Halia marsicularia*

Glycomyzidae

- Amictus exquisita* ♀ *leptaria*  
*Hymenoa duria incipitaria*  
*Selidosema futuraria*  
*Gedonia avuncularia*  
*Lazogramma subaequaria*  
*Aspilates desemularia coloraria*, *egranaria*

Lasiocampidae

- Eupithecia fuscifasciata*  
*" gemmata*  
*" curvilineata*

Lepidopteridae

- Myrsophyes pliniata*  
*C. Metaphaea lacustrata* *leucostoma propinquaria*  
*Acrolepta vasiliata*  
*C. Covenia propinquata halparia*  
*" alterna*  
*C. Chrynatobia boreata*  
*C. Scolosticha affinaria*  
*C. Spargania magnoliata*  
*Cidaria hastata* ♀ *propulsata* *lachispargaria minima*

Erebidae

- Cabdia castorialis*  
*Sianisidae*  
*Cenospilomyia westlandica*  
*Hybernia delearia*

11 Oct 1910

*Hypena* sp. small body slender & elongated anteriorly, culmose or but  
occasionally more or less massive, almost V-mandibular small.  
Caudal part often greatly elongated & protracted, but occasionally  
reversed. Maxillary palp occasionally developed, but not in all cases.  
Gen. of maxillary mouth head occasionally developed, but not in all cases.  
Thorax mostly pale, greenish-yellow, greyish, mottled or greenish,  
placed in a transverse line when in repose. Anterior wings  
are slightly papillated at their tip, legs ordinarily very  
long, especially fore pair, of which the tarsi are nearly  
as long as the tibiae, in some species the fore leg of male  
with fascicles of hair capable of expansion.

W. 398. v. 2. L gen. long & slightly hairy, eggs very hairy mostly  
only 8, but sometimes up to 12 pairs of ventral legs, never  
symmetric in position, or radiating from body  
densely clothed with hair.

*Hypena palpi* 2. much longer than the head compressed, 3<sup>d</sup> joint received wings ample  
deltoid in repose anterior subapical acute, often spear-shaped, anterior carinae very long  
antennae simple W 105 L distinguished by having only 3 pairs of ventral legs W. 400

### *Hypena humuli*.

Length of the body from antennae to the crozier 10 mm. Tarsus dark  
brown with 2 longitudinal wrinkles along the back  
0.50 m 1.00 2 a dark green line between them. On each side of the back V in both  
tarsi which have one pair of bristles. Head green & yellow  
with numerous hairs, from each of wh arises a short  
hair-like tuft. Hairs arranged in 2 transverse rows  
each of which by a slight bend

250. 9. 3. is formed in irregular curves in folded state or open  
, no sooner but it loose easily. At the time I found it, 12 days  
old, with flattened festoon around the antenna bristles  
formed a ring, which was always of blackish brown,  
sometimes greyish, light rusty brown - forewings marked  
with gray beyond the middle, a distinct oblique gray  
line crossing by 2 wavy blackish brown lines, the middle  
one near the outer margin, these lines formed by  
little elevated black tufts 2 similar tufts, not wavy, but wings  
darker or light brown, hair long & yellow without bands or spots  
very variable.

125. 2.

Bomolocha projecta Gr. I 69/18 Walsh col.  
Hypena aff.

Bomolocha projecta.  
per angulata Harvey { 69/19 Walsh col.

Bomolocha. torenta. Gr. 92/1.

is - Hypena scabralis Q. 8.45.  
Hypena cretalis Guen. Lentus 23 Ann Rep.  
I C XV. 14 Lentus coll. New S Cal. nat his 65.

Hypena abalienalis. Walk. CIX/4

)

Snow moths so called from their very long & slender compacted wings usually grayish in habit & often extremely local they frequent moist gravelly places are readily disturbed by day fly before dusk while some are true flies the larvae are generally known by their remarkable glassy appearance & the few hairs on them have an unusually brittle look may open a crenate pupa long slender conical

Division *Deltoides* Sol Mar Cat. P. 45. {

Pack Guide 327

*Hypena* (Schrank) *baltimorensis* (Guen.) Mor p 45.

Insp pl 46  
fig 8. 13 Md

*baltimorensis* (Guen.) made factualis ("")

*baltimorensis*

Insect rather common Md. "rare Canada" (Saunders)

Insp pl 53  
fig 18 Md

Hab Md (G) Can. (Saunders)

"*Pyralidae*. In some species the males are singularly ornamented with fascicles of hairs capable of excreting ink while the species have received the name of "fawn footed moths" West 2 p 324

*Ponanarta decorata* Hub Gr cor

Mor 0 Fitch To N.Y.S. Ag Soc. 1855 vol 15  
n. 539

*Hypena elegans* Fitch 327. pl 1 fig 3.

Elegant Hypena Fitch

"*Hypena* Larva elongate cylindrical with 14 legs feeds on low or climbing plants making a slight cocoon among leaves

Insp pl 49

fig 3. Md June.

Hab Md (G) Mor 1/3 unborn

Pack guide 327

I believe grow gregariously with larva becoming larger from wings a heavy broad tanous yellow band indeed is middle enclosing a pale cream white spot forward of this is a narrow very tanous yellow band also of wing a pale tanous cloud fringed white with black alternations here wings black central dot in a broad white band

Insp pl 47

fig 17. coll of Mr. Saunders  
Md.

J CXV/9 Linneu

Scattered rough uneven rugged on account of the elevated surface of the anterior wing

*Hypena scabra* (Fab) Mor 45.

*humuli* Hbar 373. see below.

Lar very plentiful in Maryland on Clover in June

Lar pl 9  
fig 2 Md clover June

It appears to be very partial to the flaxseed especially when disturbed springs from the plant

115  
Pupa formed in imperfect cocoons under leaves etc. 115  
Insp pl 61  
fig 8-9 Md

J: CXV. 14. as mentio

Hab Md (G) Hyn "Lar 3 pair of ventral feet" West 2.400

Food plant Clover esp flowers  
2 Hops.

note "this insect appears to be almost if not quite identical with the following  
H. humuli of Harris"

humuli of the hop *Hypena humuli* Hbar 377. Fitch To N.Y.S. Ag Soc. 1855. Ed 15. p Mor 0  
355) Pack. guide 327

Linneu 23. 2 Rep  
M. G. C. H. West 1857.

Hop vine hypena or snow Moth (Hab)

Larvae eat holes in the leaves of the hop (Md in June to Aug) I attm full size in about 2 weeks.

Pupae formed in imperfect cocoons in the folded leaves in crevices or under loose earth and fallen leaves.

Lar pl 21

fig 10 hop July Md

double brood first lot of larvae appear May & June 1st of Aug Washington in Aug. 1870.

the insects of which appear June & July the second lot of larvae come in July & Aug. The moth flies in Sept. Path.

Food plant Hop.

GP 3 pl 22

Hab Md Va (G) Can. common (Saunders) (J. CXV. 16. specimen sent me by Dr. H. Harris) As the true Harris's but is a transatlantic

In. has little elevated tufts of scales jutting abruptly from the upper surface of the fore wings.

*Hypena affinis* scabrius. Ed Monocochia

Insp pl 48  
fig 19. coll of Mr. Walsh  
Illino

Hab Illin (Walsh)

Paula Thompson June 17  
St. Lucia 23<sup>rd</sup> Van Wp 1898 C. 1000 ft. S. E.

Specimens from Mr. Carpenter's Kelley's Island N.Y.  
of named by Grose. See Letter 1873 - as Walker sp.

*Cyprina evanindalis* RoumieuJ. CXV. 16. from Coll. of Mr. Lintner N.Y. as *humeralis**Hypena*? *Chitralita**morbitalis* Guen

Ins pl. 58

Fig 1 Ma

Hub Md.

Can. Saunders

*Cyprina* <sup>shaded part of Can. Cat. No. 1000. Cat. 1871?</sup> *evanindalis* Walk.  
*gacalis* <sup>called Walk. & so called</sup> *coerulea* <sup>luna or unca.</sup>*Pineola* (Guen) *pinoquinalis* Guen Mar 45 pl. 78/10. fl.

*Herminia* differs from *Cyprina* in its twisted fore leg, the larva is short, slender towards each end  
covered with small tubercles & has 16 legs. Spots concealed among tiny leaves, making a narrow cocoon among them

Pack guide  
328

Homes Mercury

*Herminia* *languidula* Walk. <sup>languida</sup>*Renia* sp.Ins pl. 57  
Fig 37 Ma

Hub Md. 3G.

*Renia* *belfragei* Grose.

4/1/4

?

*Herminia*Ins pl. 57  
Fig 41 Ma

Hub Md. (3G)

?

*Herminia* *Ptytolita* *polypilalis* GuenIns pl. 58  
Fig 6 Ma.

Hub Md.

*Herminia* *cruralis* Guen. Lintner 23 ann Rep  
1873 cat no his 56.

Canada Saunders *Herminia* *cruralis* Walk. & *H. concisa* Walk. *H. clonosalis* Walk. }  
cru. cruri. the shank Guen Mar } Doubled. Mar }

*Herminia jacchusialis* Guen Pack guide one of few most common species Pack guide 328  
" *jacchusalis* Doubled. of Mar Cat. 45.

? *Herminia*?Lar. *Herminia* *marina* Pack. Mar 4

Fig 1 Ma

*Herminia* *morbitalis* Guen Lintner 23 ann  
Rep by S. Cab no his 65. J. CXV. 77*Herminia* *pedipilalis* Guen Lintner 23 ann  
Rep 1873 Cat no his 65.



*Helia* Guen. Hub. Pl. 18, 222, 223

*Sp. speciosa* or *Phlox speciosa*

or *Hyacinthoides* f. of Paul Vacher

? deniv. *Nemophila nocturna* L.

*Sleptina* (Guen) *surveolalis* Fourcier. Mor. 46

In pl. 82

Fig. 10 coll. of M. Saunders

Hab. Can. not common (Saunders)

L. 12/16/17. on Oak. Md. Jan  
3 57/148 60/20 msd

*Helia phœnix* Gaen.

*Helia*

*Helia* (Guen). *Pyralis* (Zalock)

Walter

*Epicurus* (Hub.) *americana* (Gün.) Gr. 742 Tr A 852. p. 79.

*Helia* Guen *americana* Guen. Mor. 46

*Macrophysa* ? *scriptifennis* Walk. (Gr & R) P. A. S. 2. 79

In pl. 47  
fig. 41 Md.

figured by Abbott on *Phlox speciosa* (Gr & R)

Hab. Md. (J.G.) Can. (Saunders)

Food plant prob. ? *Phlox speciosa*

Indian Corn (Grate author)

Mr. Grate states that the larva feeds on "Indian Corn" (Gr note)

4 specimens of Walk. obtained from a humble bee nest. by J. Augustus Tufts May 1858

*Epicurus* *aemulus* Guen

*Helia* — do — Guen Mor. 46.

In pl. 83  
Fig. 27 coll. of Mr.  
Saunders Can.

Hab. Can. (Saunders)

is this not same as *Americana*.

tt

? deniv. discolor discolor

*Stenca* Guen *des coloralis* Guen Mor. 46.

*Renia* *calpacia* Gr. Can. 87/24

? deniv.  
angular

*Clanyma* Guen *angularis* (Hub.) or *asupialis*. (Gün.) Mor. 46

? deniv. Can. (Saunders). *Hornimia* Walk. *effusalis* Walk. Mor. 0

### Pyralidae Guen. Mor. 46.

Topalis prop. name *Phacellura* *hyalinalis* (Gün.) Linnaeus Mor. Appendix Cat. p. 64. & Briz. Mus.

gaster like a bundle of rods or facets.

ova tube.

valvulae  
glassy transparent.

Insect taken in Florida

In pl. 56

Fig. 12 Fla.

Hab. Jamaica (Mor. 46) St. Domingo (Mor. 64) Florida (J.G.)

*Pyralis* *hyalinata* Linnaeus (Europe) esp. remarkable for its twisted tail. Lar. 16 fat. is the type of *Guilding* Miss. genus



2

*Phakellura nitidalis* (Cramer) Mor 46 Ann Ent. 2, p. 31. Ann Ent. Feb 1870. Vol 4 p. 107  
but Pickle worm of Riley. <sup>it real number at Riley - 1)</sup> Larva abundant Missouri doing great damage to  
Melons & cucumbers by eating into the fruit (Riley letter Oct 10 1869)  
Found also in Florida eating into Squashed.  
Ins. sent also from Texas Food first of Melons & Cucumbers (Riley)  
much watered

Hab. Missouri (Riley) Florida Texas &c. Lar said by Guerne to feed on  
*Phakellura nitidalis* Riley 2d Rep. 87. Potatoes. Ann Ent 2/31 (123)

Lar mid July until end Sept. Mo.

as many as 1/4 found in one cucumber pupa formed in  
a slight cocoon of white silk on leaves near the  
ground. Moth appears in about 8 or 10 days & probably  
hibernates as a moth in the imago state.

164

*Phakellura nitidalis*

25. Found in the garden of Mr. Ball of Tallahassee. Fla.  
in the flowers of the squash vine where it spins a  
cocoon in the bottom of the flower and devor-  
ing the pistil stamens. Thus causes the flower  
to either open sparingly without forming fruit.

Several were found in the stalk of the plant draw-  
ing the interior in a similar manner to the *Oegeria*  
typuliformis the most destructive to the currant of  
the north. One specimen was also found in a  
half grown squash into which it had bored like  
the boll worm of the cotton. (one real boll worm  
was found devouring the pistil & bottom of the flower  
the same as it does on the young cotton blossoms.)  
The caterpillars changed into the chrysalids. Mostly  
in cocoons of silk fastened to strands of leaves or  
anything in the boxes they were confined in.  
The moths appeared in 10 to 14 days afterwards  
& I fancy there may be several generations of  
this insect. During one season as the caterpillars  
were found of all sizes during June, July & Aug.  
they were very numerous in every garden examined  
& destroyed much fruit.

caterpillar when young black col<sup>d</sup> spotted with  
black, when old dull green.

See Frostwood. 373. Vol. 2. Ogeriidæ

*Pseudoglymma lubricata* Lyer 97/32

*Glymma Lat. cupreata*

*Pyralis* palpi & lateral margin compound last joint expanse maxillary moderate  
antennae 3 ciliated wings rather narrow not pointed posterior wings rounded w.

*Pyralis* (*Linn.*) *farinalis* (*Harr.*) Mor. sp. *Harris* 475 Pack guide 328  
*Cloea* " "  
Meal moth (*Harr.*)

*farina* flour.  
or meal.

In which at rest has its tail curved over its back presenting a very singular greenish appearance fore wings light brown orange by 2 brown lines of which 1 with a chevron like brown spot. on base & tip of each wing

*Hab* Mass (*Harr.*) Can. (Saunders) Md. Va. *H.S.*

Larva found in old flour barrels where it feeds on the meal or flour " fed on straw & corn. Mr. Riley has found it living on *Clover* Ins pe 55  
found on walls of dwellings where when at rest it *Pack guide* 17 21. *Mild*  
assumes a very singular position having the wings closed & the body bent backwards over the thorax 325

very common in Md. Va.

*Fod* Meal *Flour*.  
*Straw* *Corn* *Clover* *Pack*

? *Drosis* Gr

*Zinckenia* *perspectalis* Harr

*Hab* Fla.

Ins pe 54  
Fig 16. *Gloriosa*

a without  
yellow tongue  
purple greasy fat

*Aglossa* (*Linn.*) *pinguinalis* (*Harr.*) Mor. sp. *Harris* 475. Pack guide 329

Tanby or grease moth Harr.

Larvae live in greasy animal substances & frequently found in houses. " jets on greasy horse clothes &c. Pack

*Hab* Mass (*Harr.*) *colored* *glossy* *wings* *mucky* *gray* *orange* *by* *wavy* *lighten*

*Fod* *Butter* *Grease* <sup>v</sup> Ins pe 22  
*greasy* *horse* *clothes* *Pack* Fig 11 call of Mr. Sanborn Mass

*Aglossa* *pinguinalis*

Larva does no little damage to books by fixing itself spinning a web on the binding " Dr. Shimer. Ann Ent & Bot. 2/1823

*Injuries* — *Books*

*Pyrustica*  
*Canada* *Saunders* *Pyrustica*, *onophasialis* Walk. Mor. 0. Ins pe 89  
*erraticus* *neoclavatus* Fig 5 coll. Mr. Saunders

*Pyrustica* (*Europe*) " are generally gaily colored insects which frequent hedges & revel in the sunshine hovering over lilywhite spots but immediately settling as soon as the sun is overclouded," Mett. Z. 400

ov. *Batis*, & *maculata* Linn. *var* *Cor* Ennychia *glomeralis* Walk. C13 M Pl. 17. 331 Mor. Appendix 68.

Sp fm Coll of Mr. Sanborn Boston Mass Ins pe 106  
Fig 12. Mus.

*Hab*. Nova scotia. (Mor.) Mass?

*genuia* *glomeralis*, *Sauv* Ennychia *octomaculata*. See *Alypia*. *octomaculata* n 87 ne 44 fig 1. 9 pe. 52 fig 6.  
potor arose *Thelidonia* (*Stue*) *maculicollis* (*Harr.*) Mor. 48  
Bolyp (It Schay)

186

Eduo  
sequ to follow or  
come after

*Hervula* (*Guen*) subsquamis. *Guen* Mor 47.

Batys (*H. & Chev*)

In pl 51  
Fig 26 Msc.

note see also Batys *insequalis* (Walk) Page 123. pl 48 fig 8  
of which this may be a syn.

cupreus of copper

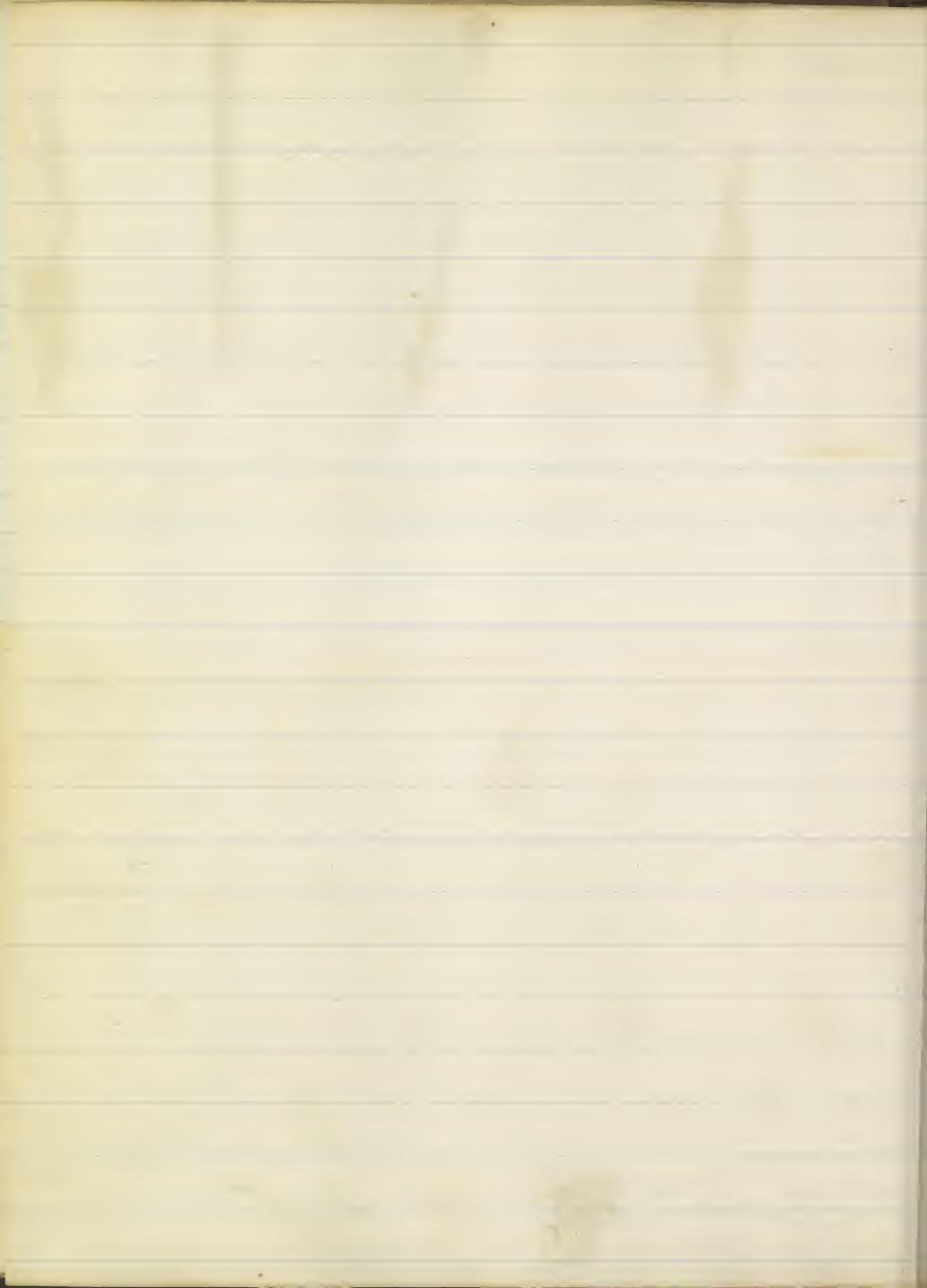
*Aglossa* (perhaps) *cuprealis*. Pack guide 329. Fig<sup>o</sup> pl 8. Fig 20.

Larva does much damage to the old leather bound volumes in  
the library of Yale College by eating out great patches & galleries  
in the leather covers & also in some cases some of the glue &  
pasteboard.

Leather glue Pasteboard. (123)

In pl 100  
Fig 44 fm Pack

166



furner to vary

Desmia funeralis Hub. Saunders list prot.

*Desmia (Metzner) macularia* (Motsch.) Mor. 47. § Pack Guide 830 PC Ag Rep. 1854 p. 101  
*Diatys bicolor* (Swain) probably ♀ Mor.  
 Spotted ringed Sable (Fitch). Grape leaf folder (Riley 38 Rep. 61)  
 Larva folds or eggs deposited in small patches over the vines  
 ~ rolls up a leaf into a cylindrical form tying or fastening it together by means of a silk thread the caterpillar is very active & when the leaf is touched escapes from one end & falls to the ground. July Aug. L.P. 3 pe 17  
 Diapause contracts muscle a spot. Papa fig 4 Md Aug  
 Ibs.

Papa formed in the rolled up leaf appears in a few days after the pupa is formed very common in Ma. Mr. Saunders writes it is taken near Quebec & Ottawa but is not found as far west as London (Canada) "the antennae of the males are allowed to thicken in the middle" Mor. 2. 450 (2 or more broods annually) Food Plant Grape (Md & Ma. 25)

2 broods (Mass Riley) annual

Hab. Md Va Fla (Fl) Canada (Saunders)

common 7/4

→ parasitic prot. Note This caterpillar is very injurious to the leaves of the grape both wild *Celastrus scandens* (Linn.) Mor. 2. 200 & cultivated in Md. (note above Riley states that it rather feeds than rolls a leaf it has been observed to fasten a leaf together & then lay eggs on the surface another leaf like a partition & here it leaves the leaf more which it continues until it finds others forms a complete roll up leaf in which

Canada Saunders *Saurea* (Linn) *huronalis* Guen. Saunders  
 Huron *Saurea*  
 Hab Can (Saunders)

Asperula prop. name  
2 colored*Auripila* (Trotz) *Ecclorolalis* (Guen) Mor. 47.

? *Auripila* (Trotz) *alnaria* Guen  
*Gyralis* (Linn) " Mor. 46.

Gas pe 50  
 Fig 21 Ma  
 96/5.

Hab. Ma

*Auripila costalis* (Linn) Riley Prairie Farmer 1867 Cap 20. 1 G.H. Pack Guide 229. error *Gyralis alnaria* Riley Pr Farm vol 19 p 260. *Gyralis costalis* Tab. *Gyralis funicularis* Stephens the Clover Worm. Moth Gold fringe of Europe

Larvae sent by Mr. Riley I fed on the fresh flowers alone rejecting both leaves & stalks. Mr. Riley however states that they feed only on dried Clover in stacks &c. { L.P. 3 pe 73  
 rearing 25 lbs species of worms sent by Mr. Riley feed on clover blossoms 7/4

Pupa formed in a cocoon, I saw fly late June 4 July. "Lar. attacks & strips clover for feeding purposes both in the field & in stacks &c. Mor. by interweaving & covering it with abundant white silken web. Black cement that much resembles coarse gunpowder Pack Guide 329. Habitaceous that much resembles coarse gunpowder Pack Guide 329. Hab. Ma. Md (Fl) Riley (Riley) Food Plant Clover.

↑ above *Hyposphegacostalis* H. Nod Humphry Gen Brit Moths vol. 1. p 140 p 18.

*Spilomena Guen lunulinea* Cxv/21.

unspotted

*Asopia immaculata* GVR. Jr Am Ent Soc 1 p 14 pl 2 fig 8 ♂Ins pl 90  
fig 18 fm GVR.

Hab Pa (GVR)

resembling *Anthaxia**Asopia anthaxioides* GVR Jr Am Ent Soc 1 p 15 pl 2 fig 9 ♀  
*Sabatana oviplagalis* Walk. GVR & AES 2.88Ins pl 90  
fig 20 fm GVR

Hab N.Y. to Pa (GVR)

very glass

*Hyalaea Guen dividens* Hub Mor 47

? dimo

*Agathodes Guen monstralis* or *designalis* Guen Mor 47? wings equal  
report wing*Isopteryx Guen apicalis magnalis* or *sternalis* Guen Mor 47

? ovaries narrow

*Stenia Guen ranalis* Guen Mor 47.

rapaderos a virgen

*Parthenocles Guen xantholeucalis* Guen Mor 47? gorros asper  
? surfaces black or dark*Conchyloctenes platinalis* Guen*Sphomela Guen stigmalis* (Gr note)

? " " " platinalis Guen Mor 47.

~~? Leucania platinalis~~ ~~Platinaeum~~.Ipl 46  
Pg 8 Fla Aug

Insect sent also from Texas by Dr Palmer.

Hab Fla (JG) Texas (Dr Palmer) platinalis Missouri (Mor)

? dimo

*Clinioides Guen opatalis* Guen Mor 48mapayapó  
áptico*Margaronia Hub quabensis* malis Guen Mor 48Can. Saunders  
Xerxes white  
Xerxes colorPopov, a spear or lance *Honyodes* (Walk) *acutaria* H.Sch. Mor 62.

acuteus acute,

Ins pl 52  
Pg 13 Ind.

Hab Geo (Mor) Md (JG)

*Honyodes acutalis* Walk is not Guenes. genus or sp. GVR & AES 2.79

(124)



*Batys*. Larva said by Tainton to be finely attenuated at each end & semitransparent with many spots it feeds in rolled up leaves, the pupa is elongate smooth enclosed in a slight cocoon among leaves." Pack quote 381

Boggs, shepherd  
or hexamann. Ogan

*Batys (Latr.) adipaloides* GVR. Tr AES 1, p. 26 pl 2 fig 19. NY coll of M. Meadmorey

Hab. N.Y. (third) Atlantic Dist. Mass! to Texas! (GVR)

*Batys citrinus* of  
a lemon color GVR Tr AES 1 p. 23 pl 2. fig 19. ♀

*Spiralis herculea* Walk. GVR Tr AES 2, 80

*Batys thyrealis* Walk. " " "

" *apicalis* Walk. " " "

Hab. N.Y. Pa. (GVR)

♂ ns pl 72.

fig 12 coll of M. Cr. GVR N.Y.

Plumus golden yellow  
? *Batys flavidalis* Guen Mor 48.

*clavifolias* var. ? in label

♂ ns pl 48.

fig 14 coll of M. Meadmorey  
N.Y.

Hab. N.Y. (GVR)

♂ ns pl 70.

fig 7. coll of GVR N.Y.

uncertain why.

*Batys cuneirostris* GVR Tr AES 1, p. 18 pl 2 fig 18. ♂  
*Rhodaria* GVR ms.

Hab. Pa! (GVR)

♂ ns pl 90.

fig 9. coll of GVR

*Batys coloradensis* GVR Tr AES 1, p. 25 pl 2. fig 18 ♀  
Colorado Batys

♂ ns pl 91.

fig 14. from GVR pl.

Hab. Colorado (GVR)

*Batys dasconalis* Walk.

ment? GVR Tr AES 1, 25. in connection with *Bromelia*

Hab. Mass. Pa. (GVR)

♂ ns pl 72.

fig 5. coll of GVR.

diffusus cleps

*Batys diffusa* GVR Tr AES 1, p. 19 Pl. 2. fig 16 ♂  
*Rhodania* " GVR ms.

♂ ns pl 90.

fig 16. from GVR ms.

Hab. Louisiana Cuba (GVR)

*Batys communis* Gr.

♂ 73/12.

ms

125.

100% VITAMIN C

generous

*Batys generosa* GHR Fr A&S 1. p 20 pl 2 fig 10 ♂Pl 91  
Fig 10. GHR pl.

Hab. Pa! (Gr 818)

graceful

*Batys gracilis* GHR Fr A&S 1 p 25 pl 2 fig 15. ♂*Batys ronalis* Guen see GHR. Fr A&S 2.80*B. affinis* Walk. strictalis. omissalis. Walk. see GHR Fr A&S 2.80.see Melpharomatis

Ins pl 43

Fig 8. coll of M. Macdormay

Hab. Mass to Pa. (GHR) Lsp. (George)

aff. Ins pl 73  
Fig 17. Coll of M. Dodge Lsp.haruspex & durivir *Batys haruspice* GHR Fr A&S 1 p 19 Pl 2 fig 14 ♂*Praeusta haruspice* GHR Ms." *sumptuosalis* Walk.

Hab. Mass to Pa. (GHR)

Ins pl 43

Fig 17. coll of M. Macdormay Ms.

*Batys illibalis* Hrb. (Gr auth.)

Euphaea aries Walk. GHR Fr A&amp;S 2.80.

? *Scopula illipala* Hrb. Nov 49.

I saw a cat at the panhandle near the fringe tree working itself up in the leaves

Pupa formed in worked up leaf. July.

LSP pl 53

Fig 6. Fringe tree Mo. July.

Hab. Md (HG)

Ins pl 20  
Fig 11. Mo Sep.

insular

*Batys insularis* GHR Fr A&S 1 p 24 pl 2. fig 26 ♂Ins. pl 91  
Fig 17. from GHR pl.

Hab. Cuba.

insequor to follow  
after*Batys subequalis* Guen GHR Fr A&S 2. p 88.*Herbula nepletalis* Walk. (GHR) Fr A&S 2.88Ins pl 44  
Fig 8. Canaba Mo Norton's Coll.

Hab. Can. (Norton &amp; Saunders)

Pl 51  
26note Ins pl 44 fig 8 is very similar to *herbula subequalis* p. 123 pl 51 fig 26.

(125)

Ridge Rd? Pack Mt N.W. 229  $\frac{2}{12}$   
Lava flows - Oregon  
from unpubl. figures of Smith & Dickey

Ridge Rd? Pack Mt N.W. 229  $\frac{2}{12}$ ,  
Lava flows Oregon  
from unpubl. figures of Smith & Dickey

*Polydactylus octomaculatus**Ennychus glomeratus* Walk. GVR Tr A.E.S. 2.79  
in this Alpha? see p.latus broad  
clavis a key or last*Polydactylus lateclavatus* GVR Tr A.E.S. 1. p 17 pl 2 fig 12 ♂*Rhodaria lateclavata* GVR Mus.*Rhodaria tyralis* Walk. ♀ GVR Tr A.E.S. 2.79.

Hab Pa! (GVR)

Ins pl 72  
fig 18 coll of M Grise F.R.? maculatus  
a little ham now*Polydactylus maculatus* GVR Tr A.E.S. 1 p 23 pl 2 fig 21 ♀Ins pl 41  
fig 18. coll of GVR 10.differs from P. catinus by its larger size, paler color, indistinct ornamentation  
by the presence of submedian lines of both wingsplectis that is  
blades or worn together*Polydactylus plectilis* GVR Tr A.E.S. 1 p 27 pl 2 fig 17 ♀

"a common species variable as to size" (GVR)

Ins pl 42  
fig 18 coll of M  
Wiedemann Mus.Ins pl 72  
fig 18. coll of GVR.

Hab Pa (GVR)

*Polydactylus xanthalis* Guen.*Polydactylus lacealis* & cinctipennis Walk. GVR Tr A.E.S. 2.80 & 88particulars  
that is behind*Polydactylus posticata* GVR Tr A.E.S. 1 p 22 pl 2 fig 25 ♂Ins pl 41  
fig 18. coll of GVR 10.

Hab Pa

*Polydactylus gracilis* Guen. GVR Tr A.E.S. 2.80 This is Polydactylus gracilis GVR. which see.signatus  
signatus marianus*Polydactylus signatus* Walk. GVR Tr A.E.S. 1 p. 16 pl 2 fig 11 ♂*Rhodaria signatalis* Walk. GVR Tr A.E.S. 2.88Ins pl 70  
fig 19. coll of M GVR.

Hab Mass to Pa. (GVR) Pa (Ridings) GVR.

*Polydactylus laevigatus* Walk. GVR Tr A.E.S. 2.80.  
Samea bipunctata Walk. sp.

under belly

*Polydactylus ventralis* GVR Tr A.E.S. 1 p 20 pl 2 fig 6 ♂Ins pl 41  
fig 8. Mus (bad fig.)Ins pl 42  
fig 17. coll of M GVR.

Hab NY to Pa (GVR)

Polydactylus?

Hab NY (Meie)

Ins pl 43  
fig 28 coll of M  
Wiedemann Mus.? *Lata* aff. *Orabaena stramontalis* Tr

Hab Ma (G)

Ins pl 55  
fig 9. Mus.

*Botes* (*Bathyg*) *socalis* Gr. 89/13.  
*Botes* " *desimalei* Gr. 89/14

? *Botys*

Larvae fed on Thistle & webbed up June Md.  
Hab Md (89)

Ins pl 69  
Fig 49 3rd

*Botys* ?

Hab Illin (Walsh)

Ins pl 70  
Fig 1. coll of M Walsh  
Illin

*Botys* ?

Hab Illin Walsh

Ins pl 69  
Fig 12 coll of M  
Walsh Illin

*Botys* ? *ranaalis* Guen.

Hab Illin Walsh

Ins pl 69  
Fig 49 coll of M Walsh  
Illin

*Botys* ?

Hab Illin

Ins pl 69  
Fig 49. coll of M Walsh  
Illin

*Botys articulalis* Illin Pack. guide 330

Larva feeds on Nettle Food plant Nettle.

*Botys syringai* Pack. in Age of Man. 1869-70, p 250 descr  
Lilac botys?

Larva bores a passage about 2 inches in length through  
the path cocoon spun of fine path chips lined with silk inside  
Ins 2<sup>d</sup> June food path of Lilac

*Botys syringicola* Pack Man Ag Rep., 1870  
Am Nat 19, p 685  
Larva bores w path of Lilac in  
New York,

Nephopteryx undulata Oak: ~~(37)~~

*Phyceta nebula*. Walsh. Am Ent 1. 99  
Pensacola leaf crumpler.

Tuscal leaf crumpler

Can remain on trees all winter & flush up their  
feathers the following spring & change into muffs  
about mid July.

apple crab plum

Remedy. pick off the masses of crumpled leaves in  
the winter & either burn or crush them

*Ocra basis Hammondi* N.S. Am Ent. 2/32

Hammond leaf tyer

L. 16 has half inch long green with a dark brown stripe on each side extending the whole length of the back. These larvae tie together the leaves with silken cords forming a mass of considerable size in which they live gregariously sheltering the leaves that they have thus appropriated filling them with their greenish due like excrements.

Good plants. Apple

Dr. J. H. Meiss

*Phycita* *acribasis* *nubilo* *Ruthm.* *R. S. Glass.* 1870 Ontario.

Cave resembles a long immature horn made at one end tapering almost to a point at the other. Frequently twisted in a very odd manner. There are generally horsetails of dead leaves around the cave so as partially to conceal it. The cage itself is made of silk interwoven with its own extremities. Tie on outside of a yellowish brown color.

Remedy pick off & destroy in winter as the cases are generally concealed amidst  
old & dried leaves they can readily be found.

*Acerola juglandis* Riley & Rep. 42 Walnut Care bearer.  
Chloride of ammonia unusually & the lava power the winds

*Phycita nobilis*  
destroyed by a  
(coenista) phyco-  
tan detracum

Physical prob. but one knows unusually & the time given  
is a partially grown condition when about to pass the  
is abandoned the leaf & anchors its care to the moss covering  
before winter sets in.

Parasites. 4 distinct Ichneumon flies  
Per. tenuis endogaster. - a yellow fly.

117/1e

2

*Crambus* 2 (*affinis ulata* Europea Brit. Mus.)

Ins pl 57.  
7.9  $\frac{57}{10}$  Ma

the 2nd May 1861

Car. Ma (ss)  
*Sciarina exscutata* Zeller

8519. Can

*albus*

Argyria - argentata  
Croesus - stibialis  
2 Cathartes coronatus Gyr.

Insp. per 51.  
fig. 35 Md.

*Hab Labrador (Clem) Ma (Hg) Can (Saunders)*

2

*Crambus*? (*affinis curvifimbriata* of Europe in Brit. Mus.)

Ins pe 20  
fig 10 Ma Sept

Hab Ma (2G)

*Nephopteryx* *Edmundii*  
var. *acutus*

*Nephopteryx* *Edmundii*  
var. *acutus*

Pack Guide 331.

bee.

cells of Humble bee

*Urolabis*  
var.

*consociatella* Telle. Riley 4<sup>th</sup> Rep. 45.  
I work on leaves of Oak in Europe the same as  
*Pempelia Hammundi* Her. 1868 Illin. p 34! Pack. Guide 331. Am Ent. 1. 99. in Ed. 3  
Paspal. leaf crawler. { Walsh.  
" " } Walsh P. Ent. Soc. Nat. Hist. N.Y. p 32.  
" " } Benthic Rept. Food growers Am. Ontario 1870 p 90

" Lure a found in a rough crooked case formed somewhat like  
a cone on the branch (Washington D.C. Dec.)  
is a zooms horn on the branch (Washington D.C. Dec.)  
all winter & feeds in feeding case.

remains on tree  
L.P. H' 16  
179 + Horn  
28 Mon

*Nephopteryx Edmundii*. Lep. Pack. 31, 198 381  
Can feed in cells of humble bee  
very narrow. antennae & tarsata at base  
parasite. *Macrogaster Nephopteryx*. Pack

9. summer about end of June  
ittle crooked horns or cases tying  
the twigs on which it feeds in  
a state the pupa is formed June  
1st (Ellis) when the larvae have  
their silken cases & change to

Inj. 70  
fig. 2. coll. of  
M. Walsh

Parent. *Schizomyia* Mr. Riley in Am Ent. 2 p. 307 says "me" Food plant Horn (JG)  
undetermined. have been from similar Haplopteryx cases, a  
phytophagous variety of *Haplopteryx nobilis*." Apple, crab & Plum Walsh.

*lea grossulariae* (Pack) Saunders Rep. food growers (Walsh). Can Ent. 2.  
var. fruit eaten (fig) - Obs. Ontario 1871. 122  
probably attack the fruit  
on the way into the tree, for it increases in size  
as it reaches the berries, together with a certain throat  
when biting the stems of some of them so that they may  
easily be taken into any required position, the  
molars, but one hole in the berry & ~~comes~~ out of which  
drives the worm, which sometimes accumulates in a little  
around the point,  
a former bulle ground in a little silken cocoon  
my leaves grubbin about 15% of the time when it remains  
the following spring, a fruit nymph necessary  
its becoming desiccated before it can mature.

Goosberry Currant & white black

Carew 1. p 89.  
Pack. Riley 1<sup>st</sup> Rep. p. 160. Al 2 fig 17. Pack. guide 331  
prob. Goosberry Moths of Fitch in N.Y. Ag Soc. 1856. vol 16. p. 487

to inside of one berry leaving a hole for the passage of its  
nictice larva making a jagged way of silk until it spans  
across 2 or 3 goosberries as the case may be  
it does sometimes span but more generally the hollow  
case web like silk threads up & hangs on the bushes  
used in the leaves published on the ground, only one  
pupa June 1st appear the following year

Food Plant fruit Goosberry &  
in & Mant. *Pempelia leonina* or *lutea* Mor. 50 Currant.

In pl. 97.  
fig. 3. coll. of  
Mr. Riley

of its long narrow  
larva has 16 legs  
on nose in  
on the eggs  
together with  
will also feed on Clover  
Grass Clover

if they generally about

In pl. 56  
fig. 5. coll. Ent Soc Phil

*Pempelia Hammundi*. Riley 4<sup>th</sup> Rep. 44.

Apple leaf skeletonizer. or Hammmonds Root hor.  
I feed on the pulpy parts of the upper surface of leaves of the  
Apple tree leaving the ribs unharmed. the worms are transparent  
after living alone or in company within a bunch of leaves too together  
they always cover the leaves, with Case tender unless there  
was is with little black granules like extremely  
leaves my mind by these insects present a curious blighty  
look, which can be observed at some distance  
Ins. glossy purplish gray marked with 2 transverse pale bands  
parasite. 2 small skeletonizer flies one of which is a marragator  
T. a Chrysopa.

*Pempelia Hammundi*. Apple leaf skeletonizer. Riley 4<sup>th</sup> Rep. 44  
locate themselves on or near the end of the twigs w/ communis  
of from 3 or 4 to a dozen & from a dwelling place by webbing together  
a quantity of leaves with a material like spider web within this  
shelter they live feeding upon the leaves

In pl. 57  
fig. 10. Ind.

Hab. Ma (JG) Can (Saunders)

mucros. little or small X provos gold.

*Urola macrochrysellæ*

*Urola macrochrysellæ* Walk., GGR Tr A & S. 2. 83  
in *Catharylla nummulalis* Teller (nec Hüb.)

*Urola subaenescens*. Walk var.  
*Anagryia macrochrysellæ* Walk,

*Urola* <sup>Walk</sup> <sub>nummulalis</sub> Hüb. GGR Tr A & S. 2. 83.  
*Anagryia* <sup>Walk</sup> <sub>422</sub> " Hüb.  
*Catharylla fuscipes* Tell Chil of Cram  
nummulis a little many.

(Europe)  
Chilo allied to Crambus but the palpi are much longer & the larvae live in the stems of reeds  
(leaves naked with the head hypopharynx hairy & polished with 6 pectoral & ventral & 2 anal feet)  
the moths are found in boggy & marshy places. West. 2. 411

Chilo <sup>var.</sup> <sub>name</sub> { *aquileus* dun color or sunburnt.  
*Chilo* (Zenck) *aquilellus* Clem coll Ent Soc Phil

J. pl 76  
fig 6 coll Ent Soc Phil

Chilo sp.

Hab Md (JG)

Ins pl 58.  
fig 21. Md.

humming bird,  
zoomed bill or snow.

*Crambus colibriostris* Saunders Coll.

Insc pl. 83  
fig 5 call of M. Saunders

Hab Can (Saunders)

*Crambus girardellus*  
*Girard's crambus*

Insc pl. 83  
fig 5 call of M. Saunders

Hab W. (Gr) Can. (Saunders)  
*Crambus intermixta* Gr.

Insc pl. 44  
fig 10. coll of Mr. Grote No.

*Crambus monostellus* Clem PE & P. I. 614.

Hab Labrador. (Clem)

~~Crambus sexseratus~~

unnoted  
unnoted

intermixta to thunbergi

*Crambus affinis intermixta* of Bois mes

Insc pl. 51  
fig 15. Illus.

Hab Md (Gr)

*Crambus ruricollis* Zeller, Can.

83/6

minutiae wrapped up  
or folded in

*Crambus virgatellus* Lachellus. Thaddeus Linckens

Insc pl. 70  
fig 12. { coll. of M. Walsh

Hab Illin (Walsh) Canada (Saunders)

*Crambus minimellus* Clem 70/16

semia sicc.

*Crambus siccicollus* Saunders Coll.

Insc pl. 83  
fig 4. coll. of Mr. Saunders Can

Hab Can (Saunders)

*Crambus affinis semipustellus* of Bois mes

one half  
fins extended or  
retracted

Hab Md.

*Crambus vulgariguttellus* Clem

Insc pl. 57  
fig 4. Illus.

Hab Can (Saunders)

*Crambus lat. minimellus* Clem

Insc pl. 83  
fig 5. coll. of Mr. Saunders Can

Stale

*Crambus sexseratus* Gr.

83/2 Can

*Pleurocera cunealis* Walk. Mar Coop. 322.  
Boty's Tax.

Oct 8<sup>th</sup> 1860 found on leaves of Horse radish. Eat large holes leaving finally only the veins untouched they live beneath the leaves stretched out by the roots of Mustard. Found Oct on Turnip leaves, damage very considerable back dk purple brown, a broad bright yellow stripe on each side on the line of spiracles all beneath yellowish green. head shiny black. Hair Food plant. Horse radish & Turnip.

Hab (May)

*Bonea* ? *stramentalis* (Thib) Lentier 23 Ann  
J. C. V. M. (Lentier coll.) Rep. 224 & eat mat his. 65.

*Achnocia* ? *alvearia*. Environ Paris 128. Jyo Much  
Nanbu Lep. Sow. does much harm to the honey bee  
by consuming too much & thus breaking down  
the cells & by filling the hive with their  
tufts.

*Galleria cereana*. Lar. body soft tender yellowish white sprinkled with a few brownish dots furnished each with a single short hair; head brown & yellowish brown spots top of 1st Ray. 1.80 On male dark grey forewings glaucous sprinkled with purple brown and outer edge a few dark spots near inner margin scalloped or notched inwardly at end. hind wings light yellowish grey with patches of white female much larger & darker colored fore wings longer not so deeply notched on the outer margin or turned up at the end. more purple brown sprinkled with darker spots, hind wings grey or grayish white 1.10. to 1.40.

" *Galleria* (Europe) inhabit the nests of bees - the larvae feeding upon honey & forming galleries in the honey comb ^ 2 species. *Galleria alvearia* Fab. & G. *cereana* Linne' reside in the common hive & occasionally in such numbers as completely to destroy it curdling the comb & many of the bees in the webs spun by the larvae. The species of *Sophia* also feed upon the honey collected by Bees. (Humble Bees) & occasionally in numerous colonies. (Med. 2 p. 411) whence the specific names *Sociella* & *Coloniella*  
) can *Archaea* } p. 150 belong to *Sophia*.

*Galleria*  
*cereana*  
honey comb  
moth

" a lighted candle is recommended to be held before the hole of the bee hive that the moth flying out to the light may be burnt but this is labor in vain for the female does not leave the hive till she has laid her eggs and it is only supernumerary males that perish in the flame. Möller  
mention my own plan of pieces of hollow stems, &c.

? dñs  
la... a  
Sa...  
Bubala Guen. sumalis & tertialis Guen. } <sup>Can Saund.</sup> muricata Walk. Mor 49.  
Bolys Latr.

? dñs  
Homophysa Guen. glaphyralis Guen. & sesquistrialis Hub. Mor 49.

? dñs  
Clunia Guen. sumalis & scripturalis Guen. or sumalis hololeuca & diomalis Walk  
Sa...  
Can 3aun } Can (Saund.) Mor 49.

Pantographa lemnata G & R Aw Lyc nat Hist N.Y. p 33. pl 16 fig 7.  
Pinnea Saunders label.

In pl 45  
fig 7 Canada. W. Day

Hab. Canada (Saunders)

In pl 83  
fig 29. coll of M. Saunders  
Can

? dñs  
Ascodes Guen. interstitialis Guen. Mor 49

? dñs  
Spilodes. Guen. helvialis & mesacealis ? Walk. Mor 49.

Scopula dñs  
Scopula Sch. ilibalis Hüb. ? see Bolys ilibalis p 125. Mor 49.

Scopula rubigalis Guen. or asusalis. nestasalis thonalis & diotimalis Walk. Mor 49

Nymphula nymph. Nymphula Sch. similalis Guen. Mor 49.

? dñs  
reversus returned  
Boletis  
Micyna? (Guén) reversalis (Guén) Mor 49.

In pl 76  
fig 3 Coll Ent Soc Phil

Galleria Thorax & abdominal stout anterior wings emarginate at the apex in ♀. immobile in ♂.  
Wuth incisive & crooked in ♀ measured

\* Galleria (Tab.) cereana (Tab.) Mor 50 Harris 489. Riley 1<sup>st</sup> Rep. Mo. 166  
Max moth. Bee moth Har. Am Ent 1. 240. - Pack gunn 382

larvae eat the wax in beehives & make long silken tubes covered outside with wax & feces to protect themselves from the bees. they come partly out of this case at night to devour the wax eventually if not disturbed they fill the hive with their silky web which in many cases annoy the bees so much as to cause them to stop working or to desert the hive the larvae attain full size in about three weeks. 2 or more broods appear annually in Md

In pl 59  
fig 49 Ind.

GP I pl 86  
fig 7 Ind.

ye 1805  
agreeable  
ceres  
waxen.  
mis tales "Galleria is  
mis from the Latin word  
a foul stink from  
a end of the waxy "burning up"  
smelled like the tail of a peacock".  
posted beginning of the  
second century Walk. Pl Ent 1. 117

Pupa formed in strong oval pods or cocoons generally in or about the hive

In ws. those coming out early in the summer become moths  
in about 14 days late broods hibernate in the hives in  
cocoons. In ws. introduced from Europe Food Bee wax

"they lay their eggs at evening when the bees are food Bee wax  
Hab. Can (Saunders) WY MD DC FG

\* Galleria is placed by Westwood among the Tineidae of Stephens.  
" " " Harris " " Dividae (Crambidae) Har 489

(126)

*Cyrtocampae.*  
Larva ~~have~~ <sup>have</sup> ~~an~~ <sup>a</sup> ~~large~~ <sup>large</sup> head or mask dependent on recurved  
maxilla short or moderate anterior simple & slightly  
dorsiventral & mouth very narrow acute or rounded at  
the posterior edge originally ~~long~~ long. Larva aquaticus

L. inhabits movable cases formed of portions of plant  
or cylindrical leafy cases fitted to cover the whole body except the head four fore legs  
make air tight these cases prevent the water from getting into the lateral breathing  
holes of the caterpillar & contain a sufficient quantity of air for them to breathe  
through them they can easily move about under ~~water~~ the surface upon the plants  
which serve them for food. Some of the aquatic kinds do not make these air  
tight cases. for they do not need them as they breathe through furred gills  
placed along the sides of their lobes, Harv. 476

4435A 133

near water  
water, near  
spine of leaf

near Samsa.

*Hydrocampus*. & its allies are exceedingly interesting from the aquatic habits of the larvae which remind us of the Cladis worms. Pack Guide 330

put *Catocalysta* here - - -

*Parapontyx* Larva provided with branched opercula the pupa resides among leaves under water. Pack guide 330  
*Parapontyx allionalis* Walk. Mon. Ap. p. 66.

*Hydrocampus* Pack Guide 330 (Geminis' Ld. 97/27) Can

Larva rather thick attenuated at each end with a black head it is aquatic living in a flat case under the leaves of water lilies the pupa resembles that of *Catocalysta*.

"Europe" *Hydrocampus* & its allies frequent aquatic plants where which the larvae feed inhabiting moreable cases formed of portions of the plant, the sides of the body of the larva in some species being furnished with elongated filaments employed in extracting the oxygen from the water. Mett 2-400

181

*Catocalysta*. Larva elongate with a pale head & is aquatic feeding beneath the leaves of the duck weed living in a cylindrical siphon case covered with scales the pupa has a long ventral projection & is enclosed in the case of the larva. Pack Guide 331

*Catocalysta annulata* Walk. Saunders list under *Hydrocampidae*  
Ins pl 66  
to inundate Ins "not uncommon at London & Grimsby Can." Saunders.  
Can. Fig 10, coll of M. Saunders

Hal Can

*Catocalysta fulicalis* Clem Pack guide 331.

Hal Illin Walk.

Ins pl 69  
fig 27 coll of M. Walk Illin.

*Parapontyx* Larva provided with branched opercula pupa resides in a cocoon among leaves under water. Pack guide 330

*Smaelthis* See *Stigmatica* T. & N. 475.  
gives short note of place by day & may be wings unusual. I found running in circles on the leaves of trees & shrubs exposed to the hot sun. Ins pl 20

{ *Smaelthis* "Europe" fly by day even at noon settle on leaves exposed to the sun & fly to the sun  
their motions being very curious moving sideways & in a circular direction such as to complete the circle  
they have completed the circle return in the opposite direction so as to complete the circle

Note "Smaelthis is placed among the Pyralidae of Leach by Westwood" T. & N.

The motions of *Smaelthis* are very curious when they alight upon a leaf. They whirl round successive in a circular direction with the head in the centre of the circle. Then return in the contrary direction & repeat these gyrations several times in succession (T. & N. 475.)

*Eutrapela transversata* Drury July Aug  
Lentue 23 Ann Rep. N.Y.S. cab. nat. Hist. '64  
CXXV. 9. Coll. of Lentue

11356 240. 54  
new of very  
spotted wings number being larger perched  
on some trees wings & eyes with variable markings  
often extended horizontally. Thorax never crease eggs  
decolor darker than normal internally with a few  
yellowish dots with 2 tan stripes.  
Larvae on American species from their peculiar mode  
of feeding & their anal setae  
Variable & pale and pale  
Variable - 2 white bands crossing the thorax  
Caterpillars cream colored by day  
Caterpillars & pupae with a light brown  
Habits & fly sluggish in twilight or whenever disturbed  
during the day.

W ant  
circular  
wings an angle

transposed

### *Geometridae* Staint. (Saund.)

#### *Oraapteridae* (Saund.)

#### *Urapteridae* (Morris)

*transversata* (Drury) Guen Mor sp. Pack in Ig of Man. Hind 1869.70  
h. 245

ites (Pack)  
gonala (Gr Coll) Mor sp. Found feeding on Currant by Mr J W Purman (Pack) in pl 53  
found resting on Red Maple leaves fig 1. Md.  
and in a loose silken cocoon Pack. guide 819 3  
within a rolled up leaf (Pack) Currant Maple  
Man (Pack.)

? *Cheirodes goniata* - Guen see *Tetraclis croccollata* P. 129x

*Cheirodes* W<sup>th</sup> transposita (Walker) Saunders coll Mor O.

Ins pl 83  
fig 31. coll of M Saunders  
Can.

? *Inspl 83*  
fig 37 coll of M Saunders Can

115/9.

Hab Can (Saunders)

It probably a variety of *C. transposita* which is a common species near London Canada & subject to much variation" Saunders notes.

Florida. gray  
or yellowish

*Characta lomidana* Saunders

Larva feeds on Willow See Melanaria Ins pl 83  
fig 35 coll of Mr Saunders  
Hat London Can. rare (Saunders)  
Food plant Willow (Saunders)

?

*Eutrapela transversata*  
*Characta* ? Heav Md.

Ins. 64  
24. Md

*Characta* ?

Ins pl 62  
fig 23 Md

Hab Md. FG,

8. well  
marked & variable  
elements apparent

*Characta*, Guen (Gr cov.)

*Eutrapela clemataria* SVA G.R. Tr A.G.S. 2.p. 811

♂ *Characta transversata* Walk. G.R. Tr A.E.S. 2.80

♀ " *transversata* Walk G.R. " " "

2 *Hemerophila unitaria* H. Sch

*Eutrapela* (Hub) *clemataria* (Hub). Mor 54 SVA pl 101.

Lar pl 10  
fig 14 fm SVA

Ins pl 55  
fig 23 Md

Ins pl 96

fig 25-D.6. coll of M  
Saunders Can

brown with small hump on 7th segment 2nd, 3rd

two colors clouded with darker shade. A line of dark  
bands on one side with white from rear the hooked the  
inner margin & hence extending across the under wing

(Grauer)

(Spun 23 June. Ins appeared 10th July & sucker  
{ blossoms of flowers &c Geo (SVA)  
as night Food plants Alder Clematis Sassafras (SVA)

16 ab Md (FG) Geo (SVA) Can. (Saunders)

9 duri

*Acyrosemia* (C. Sch) *decurtaria* (H. Sch) Mor 54

(191

*Eutrapela transversa*  
Lentue 23. Ann



*Geometrina Staint.* (Saunders)

Ourapteridae (Saunders)

Urapteridae (Morris)

ovipositor tail  
? during winging }? down  
transverse*Choerodes (Guen.) transversata* (Drury) Guen Mor 54. Pack in Ig of Man. Pl. 1847.70 h. 248

? Choerodes Squandy list (Pack)

? Cross lined Choerodes (Pack) Lar. gonulu (Gr Coll) Mor 54

Lar. found feeding on currant by Mr J W Putnam (Pack) in pl. 53 fig 1. Md.

Is found resting on Red Maple leaves

Pupa found in a loose rotten Cocoon Pack. guide 819 3

within a rolled up leaf (Pack)

Hub Ma. (G.) Man (Pack) Currant Maple

W and  
Capitate  
varia in angle

transposed

? Choerodes gonata - Guen see Tetracis crocullata P. 129x

*Choerodes W<sup>th</sup> transversata* (Walk) Saunders coll Mor 0.Ins pl. 53  
fig 31. coll of M. Saunders  
Can.\* Ins pl. 53  
fig 37 coll of M. Saunders Can

115/9.

Hub Can (Saunders)

\* probably a variety of *C. transversata* which is a common species near London Canada & subject to much variation" Saunders notes.Florida. gray  
or yellowish*Eutrapela floridana* Saunders coll.

Larva feeds on Willow

See Melania

Ins pl. 83

fig 35 coll of Mr  
Saunders Can

Hub London Can. rare (Saunders)

Food plant Willow (Saunders)

?

*Eutrapela transversata*Ins. 64  
24. - ms

Choerodes ? Heav Md.

Ins pl. 62  
fig 23. Md

Choerodes

Hub Ma. (G.)

*Choerodes*, Guen (Gr coll.)

Eutrapela clemataria SVA GVR Fr 2. p. 80

♂ Choerodes transversata Walk. GVR. Fr 2. p. 80

♀ " transferens Walk GVR. " " " "

? Hemerophila unitaria H. Sch

Eutrapela (Hub) clemataria (Hub). Mor 54 SVA pl. 101.

Great hook tip looper moth (SVA)

Lar pl. 10  
fig 14. fm 89 allIns pl. 55  
fig 23. MdIns pl. 96  
fig 25. 26. coll of M  
Saunders Canbrown with small hump on 7th segment back, black  
tufts black & variable  
claws apicent{ Larvae  
June 23 June. Ins appeared 10<sup>th</sup> July & sucker  
blossoms of flowers & Geo (SVA)  
at nightFood plants Alder *Platatis* *Sassafras* (SVA)

Hub Md (G.) Geo (SVA) Can. (Saunders)

? down

*Acyrosemia (C. Sch.) decuraria* (H. Sch.) Mor 54

(191)

Morris. List p 55  
Fam Ennomidae (Guén.)

- Ajucia* Guén  
*Nicosoma* H-Schaf.  
*Hemiptesis* H-Schaf.  
*Priocelya* Guén  
*Epione* Hup.  
*Syca* Guén  
*Angerona* Rap  
*Cyperus*. Guén  
*Mimocampia* Guén  
*Endrapia* Guén  
*Metrocampa* Latr  
*Ellopia*. Deutsch  
*Caberodes*. Guén  
*Sistracis*. Guén  
 { *Eurymene* Hup.  
 { *Enchomia* Bör. Deutsch  
*Melanoma* Guén  
*Euromos* Deutsch  
*Eugonia* Hsch.

Fitch 1869

recycla Johnson area Fitch to W.C. Jones 185  
3 28 June; ) )  
Ins. yellowish brown forewings with a  
central black dot & several oblique with a  
darkish blackish bar hind wings  
and brown band & a blackish bar  
8 with 1, 35.

*Procycola armataaria* H. Schaeff. (Pl. 127)  
Lilac measuring worm Fitch N.Y. Sig. rep. 1859.

*Procydela armata* H. Sch. Saunders. Rep. quin  
gravers asin. Ontario 1877, 35.

L. 15 July on gooseberry & currants with des  
P formed in a slight web of silk interwoven  
with leaf fibers. J. June  
cap to the summer of '75. Lille.

*Priococcyx bilineatus* Pack, in Agricola

Larva found by Mr Saunders  
feeding on Oak.  
P formed 4th July  
Brs 7th July

Kap. Cau.

*Priocycloca bilinearia* with leaf, flower,  
leaf  
Larva feeds on fol. *O. Ann. nat. IV. 685* ~~fig.~~

errores  
tunc legitimata  
? derus

Fam Ennomidae Guen Mor

*Apicia* (Guen) *sphaleraria* or *junctaria* (Guen) Mor 55

figures small or mark.

*Microstema* (H.Sch.) *tatistigaria* (H.Sch.) Mor 55

? derus

*Hemiplothis* (H.Sch.) *drapetularia* (H.Sch.) Mor 55.

? spissula siccata

rankles aevile  
annatos harnessis  
or armis,

*Polyclla* (Guen) *armataria* (H.Sch.) Mor 55. Lich NY S.Cy Rep. 1869. 528.  
S. Sch. measuring wings.  
S. Sch. feeds on the lice by night & during the day hangs on the twigs with its head downwards  
it feeds on the wings which it forms in an open meshed cocoon Ins pe 62 48/17. Md  
where the leaves overlap & on the opposite  
of the stems, two following seen in same vesperante  
eggs glued to the under side of a leaf to the  
Hab. Ma (Y.G.) N.Y. (Mor) Can rare (Saunders) number of 75. on Silver



myth name  
seminaria?

*Epione* (Lep.) *seminaria* (H.Sch.) Mor 55.

? *Plagodis* " (Gr correction)

? *Sycia solitaria* Guen Mor 55.

Ins pe 47  
Fig 8 Ma

Hab. Ma (Y.G.) NY Mor

Ant *Epione* (Lep.) *deportanata*. Grote P&SP. 3. p 90. pe 2 fig 7

47. Ins pe 55  
Fig 3. Ma

Hab. Md. (Gr.) Ma (Y.G.)

Ins pe 80  
Fig 12 Gr. 19

? derus

*Sycia* (Guen) *macularia* <sup>Guen Mor 55</sup> ~~Epione~~ ~ above.

Fig 47  
8. Mor

(197)

*Anthonomus croceostriatus* Grün. Saunders Rep. fruit  
*luteum* flowers Ass't & Ontario 1871 p. 37.  
 female June deposited 220 eggs in patches or  
 clusters in the blossoms which were confirmis  
 description of larvae which feeds on  
 Strawberry Curvaceous.

*Nematoxenoides filamentaria*

Sp. exhibited Ent Soc Can. (Can Ent 2, 35) by Mr  
 Sandus Can. from Bear Hollow 9 (Can Ent 2, 35)  
 Larva

Selenia

Kentaria

G.R.

31/8. G.P.P.

*Angerona* Myth name

crocutus  
of a saffron color

			Bethunus to Nov. Scott Sept 2 / 87
	<i>Angerona</i> (Drap)	<i>crucoctaria</i> (Guén)	Mor 55.
	"	<i>citrinaria</i> Walk	Lar pl 100. Pg 24 fm Pack.
		<i>crocutaria</i> Pack guide 319 (Fab. Bethunus)	Ins pl 53
		Larva found feeding on the culm and straw very late June Ins. July (Pack guide 323) Pg 6. Md 19-20 year end So. Phil.	3. 77 south
Hab. Md (♂G)	<i>Canula communis</i> Saunders		
	Ha. Habay (Can Ent 1. 18)		Soos plant Strawberry Pack.

? dries  
annex: a friend

	<i>Hyperotis</i> (Guén)	<i>myssaria</i> Guén	
	? <i>Myssaria</i> (Linn.)	<i>luteola</i> (Linn.) Mor 66.	

Hab. Md (♂G) ~~us~~ *leucotoma* Linn. (Mor)

Ins pl 53  
Pg 8. Md

96

	<i>Hyperotis exsunaria</i> (Guén)	Mor 55.
	Probable "	H. Schaeff Mor 0. (af Grotos Coll)

Ins pl 62  
Pg 19. Md

Hab. Md (♂G)

*Hyperotis alienaria* H. Sch. Mor 55

*Hyperotis alienaria* Guén G.R. 1885 2 p. 81  
*Selenia alienaria* Walk (Larva taken on beech Sep. Canada Saunders  
*Azelina alienaria* Walk (same species belonging to *Hyperotis* closely allied & not identical with *H. alienaria*)  
*Macaria ludovicana* Walk (same species belonging to *Hyperotis* closely allied & not identical with *H. alienaria*)  
G.R. 1885 2 p. 81}

*Hyperotis*? Pack. Am. Nat. fm 5/8/87 unpublished figs. Amer. Nat. W. 229, pg 218  
Larva feeds on *Strawberry*.

Har cor. 322. Lar pl 100. Pack.

*Nematoxompa* (Guén) *filamentaria* Guén Mor 55. Pack guide 321. pg 8. Pg 7. Md  
(Larva) <sup>general color brown gray</sup> <sup>marked by 4 segments on its back.</sup> Feed late in June on the *Strawberry*. Pack guide 321.  
Hab. Can. (Saunders) Mor 27 July. Pear Willow (Can Ent) Ins pl 44  
Soos plant Strawberry Pack. Pg 6. coll of M. Grate

? dries

*Azelina* Hübnerana G.R. In AES 2 p. 88.  
— " *Hornetana* Walk. G.R. In AES 2. 81 & 88.  
— " *Stygiana* Walk. " " 7-8.  
— " *Valeria* Walk. " " 7-8.

Ins pl 61  
Pg 15. Md.

Ins pl 43  
Pg 13. coll of M. Hadermeyer N.Y.

? dries  
are (dries in  
or before)

*Cyclina*? (Rausch) 90/21  
*Endropia* (Guén) *angustaria* ♂ G.R. Ann Lyc. Nas Hist N.Y. Apr 1867 vol 8 p. 13.  
pg 15. fig 7

Ins pl 77  
Pg 36

Hab.

<sup>7-8</sup>  
commonly belongs to  
as they

*Endropia cervina* Pack. Grotos Coll.

Ins pl 44  
Pg 2. coll of M. Grate

*Endropia hypocharia* (H. Schaeff) Mor 55 Guén G.R. In AES 2. 80.

? *Endropia refractaria* Walk (G.R. 2 p. 80.)

♂ " *mesotusata* Walk (" 2 p. 80.)

*Macaria*? *indeclinata* Walk (G.R. In AES 2 p. 82.)

*Azelina pacifica* Walk G.R. In AES 2 p. 88.

? *Ephone hypocharia*. (Grotos correction)

Hab. Md.

Ins pl 44  
Pg 7. Md

96  
7

note *Endropia hypocharia* of Walker is *E. komuraria* of G.R.

(128)

*Eusomopea pectinaria* (W.W.) Sme  
Leidseer 23 Ann Rep my 8 cat not his loss

*Endrophia homonaria* G.R. Tr A.E.S. 2 p. 80  
error *Endrophia hypocharia* F. Wall. G.R. Tr A.E.S. 2.80

closely allied to *E. hypocharia* but the wings are narrower. The angles of the exterior margins appear more determinate. The color is intense ferruginous above with purplish reflexions. Not clear brown with an olivaceous tinge. G.R. Tr A.E.S. 2 p. 80

*Caderitria* brick  
made of brick

*Endrophia lateritia* Guen Mor 56  
*E. lateritia* S. & F. Caberodes S. ? *agresaria* Walk. are identical. Belong to *Naneria* G.R. Tr A.E.S. 2 p. 81

Hab. Md (JG) see *Dryopteryx* 85

? Ins pl. 55

Fig. 21. Md.

?

*Endrophia madusaria* of British museum coll. G.R. Tr A.E.S. vol 2 p. 81  
*Endrophia opacaria* Walk. G.R. Tr A.E.S. 2.81,  
See also *E. vinosaria* below.

Ins pl. 62  
Fig. 20. Md.

?

*Endrophia propinqua* of Brit Mus. coll.

app. Ins pl. 62  
Fig. 21. Md.

Hab. Md.

*Endrophia serrata* Lamey  
*Ennomos consisaria* Walk. G.R. Tr A.E.S. 2. p. 88.

Ins pl. 58  
Fig. 2. Md.

Hab. Md (JG)

*Endrophia culicaria* Walk.  
*metanema* " Walk. G.R. Tr A.E.S. 2. 88

serratus notched like saw

*Endrophia testinaria* G.R. Ann Lyc Nat His. N.Y. vol 8 pl 18. V refigured pl 15 fig 6.

Bar Ins pl. 72  
Fig. 4. G.R.

Ins pl. 86  
Fig. 6. fm G.R. fig

1867. up.  
*Endrophia virulentaria* ♂ G.R. Ann Lyc Nat His. N.Y. vol 8 pl 15 & refigured pl 16 fig 5

Ins pl. 77  
Fig. 35. fm G.R. fig

*Endrophia vinosaria* ♂ G.R. Ann Lyc Nat His. 1867. ap. Vol 8 p. 17 pl. 15. fig. 4;  
*E. madusaria* Walk. G.R. (See above pl. 62 fig 20. also.  
*E. opacaria* Walk. G.R. Tr A.E.S. 2 p. 81)

Ins pl. 77  
Fig. 35. fm G.R. fig.

Can Saunders  
*Effecta*, completed  
*Emesaria* Guen

*Effectinaria* Guen  
Mor

*Abraxas. Rubearia* Dicks. Pl. Ed. 1. 22

Lar. Long cylindrical yellow measure or span worms  
varied on sides with white streak numerous  
black spots regularly arranged from each  
spot or dot proceeds a hair

Ell.

Remedy, hand picking or jarring the bush suddenly  
& then gathering the worms which have let themselves  
down by threads with a forked stick & drawing them  
or when the worms have completed their growth  
& gone underground to change cover the ground under  
the bushes carefully & then cover with boards &  
or bricks so as to prevent the moths from coming  
out - as they will perch by night about under  
the boards as perfect moth. Riley  
also a solution of 8 or 12 ounces to a bucket full of  
water. Riley Am Ent & Pach. 1st Rep. Mass. p12.

*Abraxas rubearia*

L. 1.00 16 footers bright yellow varied on each side with white having numerous black spots & large  
round dots regularly arranged each giving out a fine black bristle  
M. pale number yellow wings with one or more faint dusky spots behind the middle in male  
♀ in female with an irregular band crossing both pairs 1.38 to 1.40

for measure. xapling caterpillar

*Canada* Saunders Melrocampa (var) *peralta* Guen. Mor 56. ♀s pure white with 2 darker oblique lines not angulated. *obliqua* not uncommon northward. Pack guide 320.

variations seen or conveyed through *Lamia* 12 leg. Pack guide 318. Pack End 1. 22. & vol 2. pl. 67.

*Elophila* (reinhard) *ribearca* Frank End 2 p 20. fig 1 Pack. Guide 321 Am End 2. 13.

*Abraxas* *ribearca* Fitch Jr 124 Ag Soc. vol 1. 1856. 427 *Ag Soc. 1856* 327 *Am End 2. 13.*

*St. L. Axias*. *Am. currant moth* Fitch *Gooseberry Spanish Moon Currant* 2 p. 13. fig 1. 14.

Currant Span worm *Poly* may be sprinkled with black & golden spots. in

Eggs deposited on the twigs of *Rubus* all winter

Leathes fully ripe at mid June

Pl forms just below the surface of ground or under any rubbish without leaves & remains in pupa state about 14 days

J. July. only one brood yearly

des. L. head wide with 2 large blk eye like spots on the outer side above & 2 smaller ones beneath when full grown it measures about 1 inch & is of a bright yellow color with several white lines & numerous black spots

" Ground dots" Cab Can. (Saunders) N.Y. (Fitch) East about 2 weeks

(West) *Hab. of *Agriotes* album* *on waste* *Hebborn* *powdery*

*Elophila* *bubularia* ♂ G.R. Ann Lyc Nat Hist N.Y. ap 1867. Vol 8 p. 24 pl 15 fig 8.

*Elophila* *seminalata* Walk. G.R. To A.E.S. D. 82

*Elophila* Larva <sup>smoother with</sup> 12 legs. Pack guide 318, 320.

Hebb 924

Ins pl 53

fig 5. coll of Dr Morris Batt.

Ins 77

24 <sup>coll of Morris</sup> Batt.

Ins 77

fig 40. from G.R. fig

*Elophila endraefaria* ♀ G.R. Ann Lyc Nat Hist. N.Y. Vol 8 p. 26. pl 15 fig 10.

Hebb 924

Ins pl 77

fig 41. from G.R. fig

*Elophila pellucidaria* ♀ G.R. Ann Lyc Nat Hist. N.Y. Vol 8 p. 25 pl 15 fig 9.

Hebb 924

Ins pl 77

fig 40. from G.R. fig

*Conura* Saunders. *Elophila floridaria* Guen. - *E. fiscellaria* Guen. <sup>♂</sup> *E. amuraria* Walk. floriferous flowering gray

*Elophila paucisaria* ♀ Walk. " *E. amyrisaria* ♀ Walk. are identical. Belong to *Numeria* G.R. To A.E.S. 2. 81

03. 56.

*Elophila fiscellaria* Guen. Lintner 23 am rep. 1841.  
J. C.XV. 17. Lintner coll. Cat nat his. 64

*Caberades marginaria* N. S. Mical Proc. Inst. Natl. Hist. X. 1892.

Hab. Mass.

*Caberades ulbricensis* Guen. Lintner 28 mm Rep.  
My. S. Cab. nat. his. 69.

Eurymene phlogosaria Guen. off May  
1831/8 Lintner 23 mm Rep. by S. Cab. nat. his. 69.

Eurymene rosaria G. & R. I 74/1 } 96/3 Can  
1890 }

*Metanemura cava aria* Park 4x x 11/35

that may be  
just back

coming on  
the metacanva

*Caberodes resinaria* Walk.  
*Sabracis pandaria* in ♀ Walk. G.R. in A.E.S. 2, 81

*Caberodes* (*Guen*) *Metrocamparia* (*Guen*) Mor. 56  
*C. umbinaria* ♂. *C. superaria* ♂ *Conifusaria* & *C. floridaria* ♂ Walk. seem to belong  
 to *C. metrocamparia* G.R. Tr. A.S. 2, 81  
 (*C. resinaria*, <sup>and</sup> *C. Euterpe* *maculata* var. *severa* nearly same G.R. & A.S. Ins. pl. 53  
2/81 see above) Fig. 22 Md.

Hub Ma (♂G) no London Can common (Saunders)  
 Common Northward. Pack quis 320.

?

*Caberodes*

Hub Ma

Ins. pl. 62  
Fig. 22 Md.

? deni  
 crocus - saffron

*Tetracis* (*Guen*) *crocata* Guen Mor 5-C. *Betham* Jr Nov Scot Nat. 2. 87  
 2 *Chorodes* *guttata* Guen. of Gr. coll. (see p. 127.) Mor 56  
 Hub Ma (♂G) Can. rare (Saunders) Nova Scotia (Betham)

Ins. pl. 53  
Fig. 12 Md.

? Lora a thin wren

*Tetracis* *lorata* Grate P.E.S.P. 3 p 91.  
 " *adusta* Guen of *Brachysoma* Betham Jr Nov Scot Nat. 2. 87.  
 Eggs. From 15 to 40 eggs are laid at one time during the night only. 2 females  
 June 13 to 21. Laid over 300 eggs. (Can) eggs change color from yellowish green  
 to brownish. Turn to greyish white daily. (Can 8-Nov. 2, 28) Hub Eust. Md. Jr. (♂G) London Can (not com)  
 Saunders

Ins. pl. 46  
Fig. 1 Md. May.

myth name

*Eurygome* Guen Rentschgi Gr XIX/12

*Eurygome* (*Huf.*) *conigalaria* Guen Mor 56.

*Eurygome* Bde. Schlech. *Terataria* H.S.

*Eurygome* *ferruginea* H.Sch. Mor 56.

*Eurygome* in England is known as the scorched wing Newman 53

Ins. pl. 63  
Fig. 5 Md.

? var. Ins. pl. 49  
Fig. 12 Md. May

Hub Md (♂G)

*Eurygome* *calyptraea* Guen G.R. Jr A.E.S. 2, 80 also *Epicore* *azylaria* Walk. do do do

*Eurygome* *alcoolaria* Guen Mor 56

83/18.

Ins. pl. 71  
Fig. 6 coll. of M. Grate.

Hub Can (Mor)

*Eurygome* *subnivata* Walk. G.R. Jr A.E.S. 2, 82  
 elliposa "

*Metanema* (*Guen*) *inatomaria* Guen

Ins. pl. 47  
Fig. 9 Md.

Hub Md (♂G) Can (Saunders)

? pera with  
 myxa a thread

rus broad,  
 rugo rugo, & worn

*Metanema* *laferrayata*,  
 Macarea " Walk. G.R. Jr A.E.S. 2, 82

(189X)

*Cornomas subsynaria* Po. Ent. 1. 57

Eggs deposited in a cluster upon trunk & branches  
of 50 or more  
Lar feeds upon young buds as soon as they begin to  
expand & afterwards on foliage. Feeds deeply a  
portion time in an open red wood cocoon  
among half eaten leaves & remains as pupa  
about a week.

Ins appears about July.

Rewley. Hanging the trees so as to delodge the worms  
which can then be destroyed on the ground  
whilst those suspended by other threads can  
be easily caught down by means of a stick  
or pole.

*Parennomas peneata* Pack. Agr. Man. Flint. 1869. 70. p. 267.

Lar. found by Mr Saunders Can. on Pine  
in Autumn. Ins appeared 20<sup>th</sup> May following

Hab. Can.

Food plant Pine

*Parennomos piniata* Pack. Muu Ag Rep 1870.

Lar feeds on Pine in Canada (Saunders)

erroneous  
legitimate  
magnaria great

*Eumomos* (Heitrich) *magnaria* (Guin.) Mor St. Pack. <sup>guine</sup> 321 Hair cor. 320.  
*Eugonimia* H. Sch. & Hrb. Mor St.  
*Eumomos lutearia* Wall GVR Tr A&S 2.88

Larv fed on Oak Malth Po End 1.77 }  
 spun a large loose cocoon of open net }  
 with and dry dry, appeared Sep. } Ins pl. 62  
 1924 Md.

Hab Md (♂) Mass. (? unbown) Can rare (saunders)  
*Eumomos* in England known as Thorn moth Newman 66. OAK.

? *Eumomos* *subsignaria* Hrb. Mor St. Packard Guid 321 Po End. 1. 57.77  
*Eudalimia* " Hrb. Ann. Naturalist 2. 383.

? *Eumomos* *subsignaria* Fitch 1853. to NY Ag Soc. p 842. Ins pl. 18  
 New York measuring worm Fitch Fig 6. Mapa N.Y.  
 Larvae very destructive to the foliage of shade trees in cities & especially }  
 attacking to pedestrians by dropping from the trees suspended by }  
 a silk thread which enables them to remain when the danger is past }  
 Pupae formed in a very slight web or cocoon amongst the leaves & branches }  
 of in Wash. D.C.

Hab NY (Fitch) Illu (Walch) London can not common (Saunders) Food plants Elm Linden Poplar Maple  
 Apple. (Mc Marsh Delphos Ohio Colln 1840) spines

♂  
serrata. serrata

*Eumomos serrata* Drury of Dr. Mor Coll. Mor Cal O.

Ins pl. 53  
 fig 2 Md.

Hab Md (♂)

♂  
 ev. well yurria angle  
 Tebracis  
*Eupanaria* (Hrb) *coloradaria* Gr JR. Ann Lyc Nat His NY Apr 1867. Vol 8 p. 12 pl. 16  
*Eumomos* (Heitrich)  
 Colorado Eupanaria

Ins pl. 77  
 fig 28. from G.H.R. fig

orthopry. the moon

*Selenea* <sup>titub</sup> *Kentaria* GVR Tr A&S 1. n 359.  
*Pericallia* " GVR Tr A&S 1. p 12 pl. 1. fig 5.

Hab Putnam Co. N.Y. (GVR)

Europeans *Pericallia syringaria* or lilac beauty distinguished from all other caterpillars  
 in the family by the recurved horns upon the eighth segment of the body see West 2. 397. fig 109/12.

Ins pl. 81  
 fig 8. from GVR fig

*Amphibolurus cognatus* Goua. Plinian 23 Am Rep.  
Lan plumb Aug. 1845 S'ab nat his by

Amphidasyidae Guen'

spugs around  
trees thick

? den

Ceratonyx (Guen) satanaria Guen Mar 67  
Hab. Ge.

gummos. of an oak

Amphidasya guernaria Lda. Mar 57. Syst. pl. 108.

American Oak beauty

Larva <sup>PL</sup>  
fig. 15 Syst. pl.

Larva spun upon the surface of the ground 22 May 8 <sup>In pl. 53</sup>  
Ins appeared 13 Feb. (Geo)

Fig. 3 Pl. 3

Food plant Oak (Syst.)

Hab. Geo. (Syst.) Ma (Pl.)

  
L. dark brown & variegated lighter. hummock 17.8 mm.  
lack on a stem.  
15 dark brown with 2 short white lines obliquely across  
+ light & beautifully spotted variegated with dark brown

Cognatus allied

Amphidasya cognataria Guen Mar 57. Pack Guide 323. <sup>Belatum</sup> Praus. Nov. Scot Inst.  
Amphidasya <sup>fig.</sup> Larva stout "wing like" very dark brown & variegated 2/187

Mr. Saunders in his notes states he thinks it feeds on Pine <sup>Fig. 20. coll. of</sup>  
It is not common in Canada. <sup>Pl. 11111. Luttrell 1869. M. Grot</sup>

Mr Packard in his guide to the study of insects <sup>19</sup> says "we have found the Food plant prob pine?"

Hab. Canada (Saunders) <sup>323.</sup> Larva feeding on the Museum <sup>19</sup> Missouri currant <sup>19</sup>  
Man. Pack <sup>currant, the gooseberry & the</sup> Missouri currant <sup>19</sup>  
<sup>red gooseberry</sup> <sup>228. See</sup> Goosberry red Sprucea Pack

penae punishment  
or pain

Amphidasya paenulataaria ♂ Gr. PESP. 2 p. 31. pl. 2. fig. 3.

Ins pl. 73  
Fig. 17 fm. GVR fig.

Hab. Mid St. (Gr.)

Cupido lone, denise Amphidasya cupidaria ♂ Gr. PESP. 3 p. 534 pl. 6 fig. 8.

Ins pl. 80  
Fig. 9 fm. GVR fig.

Hab. Mid St. (Gr.)

Bistort myth name  
Canada Saunie  
was a bear

Bistort (Leach & Sch.) unaria Walk. Saunders list.

## Boarmidae Mor. 57.

<i>Hemerophila</i> Steph.	<i>Paraphila</i> Guén
2 <i>Boarmia</i> Dup.	<i>Brenschleia</i> Guén
<i>Synopsis</i> Hal.	<i>Stenotracheis</i> Guén
<i>Boarmia</i> Zets.	<i>Exilis</i> Guén.
<i>Sephrosia</i> Sdu.	* <i>Clercia</i>
1 <i>Ectropis</i> Hub.	

\* Saunders lists Boarmidae Mor. 0.

Boarmidae  
See also 2018.2 pp. 2  
Last finds of Boarmidae  
from various parts of Asia - India & China

I *Sephrosia fumataria* Ns. Minet Proc. Boston Soc Nat Hist XII. 1883

Hab. Man.

Found in *fumataria* Pucc. 1867  
in the Szechuan Mts. & in Central China 1879  
and now

*Siphonosea canavaria* Guén. Lédeb. 1828 Amer.  
Rep. 1879 Szechuan  
by



200



L. very thick & apicite like for a looper. back light brown shaded darker to spiracles & on inner part light brown  
I.d. brown with 3 zig-zag lines of lighter borders with black running across upper wing under wing with only 2.  
♀ darker color with zig-zag lines of darker something like the ♂  
beautifully shaded, markings. Large.

? derv  
hentes. agarden

*Epimecis* Gr. cog  
*Bronchialis* (Guen) *Hortaria* (Guen) Mor. 57.

" *Chiodendronia* SVA. pl. 102.

*Daphrosia ampliaria* Walk. G.R. 2. traits 2.82  
*Bronchialis dissimilatoria* Walk. " " "

Carpet or Tulip tree beauty SVA.

Lar pl. 10  
 $\frac{1}{12}$  TC. fm SVA  
Ins pl. 55  
 $\frac{1}{12}$  TC. Md.

Lar went into the ground May 16 & July 11 (Geo).  
Ins appeared 5th June & 1st Aug (Geo).

Hab Md (Hg) Geo (SVA)

Food plants Tulip tree Sassafras. (SVA)

Streos narrow  
spurlos throat or neck.

*Stenotrachelys* (Guen) *approximaria* Hüb Guen Mar 58

? derv

*Exilis* (Guen) *pysolaria* Guen Mar 58.

*Cleora* ?

At 2000 report numerous  
wpa hour or two  
ago

Cleora Curtis

Hab Mass (Saunders)

(Cleora Saunders list amongst Boarmidne.)

Ins pl. 65  
Fig 24 Man coll of  
M. Saunders.

Canada Saunders Cleora limitaria Walk. C diversaria Walk. C distinctaria Walk.

*Cleora dentata* Pack. (Saub. aut.)

" *fulchraria* (Minot)

Ins fm coll of Mr. Saunders Can.

Ins pl. 83, & Ins pl. 65  
Fig 23. var. Fig 24

*Cleora fulchraria* Nt. Minot Proc Biol Soc Nat Hist XII, 169

Hab Mass.

J. Ex V.  $\frac{1}{4}$ . Lethes inc

*Cleora fulchraria* Minot Sept.  
Linton 23d sun Rep. N.Y. State Natis 59

occurs abundantly on trunks of Pine  
(& laurisilius etc.)

Geometridae

U. S. A.

Adults darkumber brown, sometimes pale yellowish, black  
greenish brown with the three median segments nearly double  
the width of the others. Antennae short, being prolonged slightly  
forwardly. Claws white in their first third, becoming progressively  
brownish like the blunt or slightly notched & considerably enlarged  
at middle. Tarsi yellow, next segment back of these also  
yellowish brown, and at tip, a kind of segmented heel to each  
2 small horns projecting upwards.  
P. forms in sets, in clusters in 2 or 3 leaves fastened  
together with silk.

Geometridae Mor 58

Geometra, Linnaeus

{ Nemoria, Hufn.

Geometra, of others

Iodis, Hufn.

Lypteryx, Hufn.

Rachicopita, Guené

Syphilaria, Guené

Operaria, Stöck.

Aptoda, Guené

Zenone, Saunders list

H. Venezuela Mor. Ed.

{ abraxis, rubcea see ellopia p. 129. Mor

Ephydriidae Mor 59

Ephydra, Guené.

*Geometra* & its allies (Nemoria &c) have smooth rounded, or angular cuticles  
among which are green streaks with whitish lines. *Turva* is rather short downy  
with several dorsal humps. The pupa is encased in a transparent cocoon among mosses.

203

Pack Guide 823

*Sleometridae* Mor. p. 58

ye earth  
prefer to measure.

iris rainbow

*Geometra* (Linn.) *iridaria* Guén Mor 58. Pack Guide 223,

In pl. 51.  
fig. 38 Ma.

Hab. Md (FG)

*G*  
*Geometra* *siccifolia* Tsch Tr Al & Ag Soc 1856 vol 16. p. 381. Mor 58.

Stems dry.  
folium leaf.

Dry leaf Measuring, woven  $\frac{2}{3}$  in.   
Turva presents a faint resemblance to a dry withered leaf, or the brown  
fraggy fragment of a dead twig it appears to be twigs with its 4 hand feet & etc.

Larva Aug. & Sept. feed on foliage of Choke Cherry when  $\frac{1}{2}$  in. long oak &  
disturbed they begin death when  $\frac{1}{2}$  in. long Sumach Md Sep.  
cocoon formed in leaves brown to gether with a  $\frac{1}{2}$  in. silk thread Sep.

Hab. N.Y. (Tsch)

Food plant Choke cherry (Tsch)

tunus a grove.  
Xiphos green }  
darknes white }

*Nemoria* (Hub.) *chloroleucaria* (Guén) Mor 58

*Geometria* of others

In pl. 56.  
fig. 18. Ma.

Hab. Md (FG)

*Nemoria* *densaria* Saunders coll. Mor 0.

In pl. 83.  
fig. 2. coll of Mr Saunders  
Can.

Hab. Can. (Saunders) rare

iositatis  
violet

*Iodes* (Hab.) *euchloraria* (Guén) Mor 58

? nos. bad  
virgo ring

*Lysptaris* (Hab.) *abortiva* H-Sch. Mor 58.

In pl. 51.  
fig. 40. Ma.

Hab. (Ma) (FG) Chi (Mor)

? deniv

*Pachosphaera* (Guén) ?

In pl. 65.  
fig. 5. Coll of Mr  
Sanborn Mass.

Hab. Mass. (Sanborn)

*R. exaria* Guén. the only one in Morris

? deniv

*Synchilora* Guén *liquoraria* Guén Mor 58.

Hab. Calif. Mor

(131)

*Geometridae?*  
*Aplodes.*

Ind. sent in collection of Dr. E. Smart  
taken in South Calif. In pl. 102  
fig. 7

*Aplodes rubus* Hs. Riley 1<sup>st</sup> Rep. Mo. p. 189. pl 2 fig 25. Am Ent. 2. p. 203. <sup>Ellis treat</sup>  
rubus raspberry  
var. to diversit.

Or aspberry Geometridae Riley  
Larva has the peculiar faculty of thoracically disengaging itself with  
pieces of bristly seed, fallen, & other debris of the plant which it sticks Ins. pl. 97  
to a series of patches with which it is furnished, and to this disengage <sup>Fig. 17. tail</sup> of Riley  
the habit which it has of looping itself into a small ball & is almost  
desp. detection most numerous June July.

feeds on fruit Raspberry Blackberry  
notes. see also. *Aplodes flavilimata affinis*)

Want

*Zerene pinaria* Hs. (Pack) Ag. Mus. Flint. 1869. 70. p. 247

Lar. a geometridae striped with red. feeds on pine  
M. Saunders in Pack rep. food pine.

Hab. Oreg.

*Zerene pinaria* Pack Mus. Ag. Rep. 1870  
Am Nat. N. 686.

I. Fully grown measure from beneath black white  
shaded orange-red down about when leaf in sun  
caterpillar ground to become a pupa.  
I. wings usually as thin as bank note paper. Semitransparent  
disco. the fore hair with faint indistinct transverse marks of  
1:30, of a darker color. 4:2 hind wings fringed with whitish

Over abra back minute not visible from above  
marrow short antennae serrated 4 plates. 2 wings  
anterior than exterior rounded posterior subacute no. 103

*Ophelia autumnalis*  
Brew to live?

dilectus  
dilectus or watery.

Hab N.Y. (Fitch) with faint indistinct transverse marks of a darker color. (Fitch)

*Ophelia (Sphingina) dilecta (Shiff.) Mor. 58 Fitch Tr. U.S. 229. 1858. p. 842.*

*Lacertaria*. November moth (Fitch) pale & Mor. 62.

Far. fully green measure from beneath black white.  
wings sparsely forming a row of orange red dots where there is sometimes a yellow line also in spring feeds on foliage.  
Disco. the fore hair with faint indistinct transverse marks of a darker color. (Fitch)

*Aphelodes (Guen.) mimosaria Guen. Mor. p. 58*

Ins pl. 57  
Fig. 39. Ind.

Hab. See (Mor.) Ma. 59.

*Aphelodes mimosa rubrifasciaria Pack*

83.12

? adroos one fold or sample

*affinis* \* *Aphelodes Guen. flavisicata* (see also *Aphelodes rubrovira Riley*)  
Yellow lined Geometrida  
Numasa plant

Larva found feeding on the flower of the double feverfew G.C. Guen.  
The back sides of this caterpillar are entirely covered with small  
pieces of the petals of the flower so as to represent a part of it.  
when these pieces were taken off the caterpillar appeared as in the  
lower figures of the plate it immediately however began to gnaw the  
petals from the flower & placed the fragments on the spine on  
its back sides by means of a gummy substance issuing from its mouth  
& in a very short time had clothed itself again when covered with  
the pieces of the bloom it can scarcely be distinguished from a somewhat  
faded flower - A similar caterpillar with the same habits was taken  
by Dr. Tilden (L.G.) on the blue Mexican ageratum flower.

Pupa formed in a cocoon made in a similar manner as before on  
the stalk & presents the appearance of a without head bird.

As distinguished from *rubrovira* by its somewhat larger size by the transverse rows being broader (Food Plant Double Feverfew)  
yellow or fulvous instead of white & clearing the wings into 3 rows Mexican Ageratum.

Hab. 106 (L.G.) Young Sheeps. Compositae. Sprague Ma Est 2.26

*Aphelodes glauvaria Guen.*

*Nemoria dentulularia* ♀. *N. dentaria* Walk 442 Tr. Est 2.82.

? deniv

catena a chain

*Calocera*. Gr cor Bassalus Calcararius. Gr correction] (Zerene) *Bellum* Tr. Nov. Soc. Inst 2.87  
Zerene calcararia Har. Saunders 615. Pack. Guido 323. Large 100  
Geometria calcararia Har. 459. Har cor 321 pup. pl. 101 fig. 18. Ins pl. 52 fig. 19. Ind  
Chain dotted Geometrida Har

Lar. brown colored the segments being thicker rounded with 2 subdorsal  
dark lines has yellow with black dots. Spots black on a white background  
Cocoon formed of regular meshes like net work through which the pupa may be seen in Aug (Majus) *Pinista & Capre. Cim. Est 2.173*

Pupa state lasts 30 days

Ins. mid Sep. Marin

Food Plants Wax. Waxwork <sup>Wax.</sup> axen.

Hab. Ma (L.G.) Marin. (Har.)

(note Zerene placed under Boarmidae Saunders list) Sedges. goldenrod blueberry cranberry Pack guide 833

Ephydriidae Mor. 59.

prop name *Ephydria (Lep.) myrtaria* (Guen) Mor. 59.  
*Zonosoma* H. Sch.

Ins pl. 44  
Fig. 5 coll of Mr. Grote N.Y.

Hab. Ma (L.G.) N.Y. (Grote)

? var. Ins pl. 62  
Fig. 5. Ind.

*Ephydria* in England known as Mocha moth Newman 78

(132).

*Acadalia*

Pack Ann N.Y. 299 <sup>25</sup>  
*Lamia* fests. & *Trollius*  
 fm. unfertilized fr. of small & ~~large~~

*Acadalia*

ex-lineata Pack? J. L.VIII/20 No

Acidiadidae Mor. 59.

*Acidiaria* Freit.

{ *Sternandra* Gup.

*Canomis* Freit.

*Acidiaria* H.Sch.

\* *Haematopis* in Plunbers list but  
 see in Liverdae of Morris. - P. 60  
 own note P. 134.

Caberidae Mor.

{ *Stegania* Guér.

*Cabera* Freit.

*Cabera* Freit.

{ *Corycia* Gup.

*Bapta*. Steph & H.Sch.

*Cabera intestinalis*

Steph 93 Ann Rep N.Y. Cab  
 not his Gup.

*Corycia semiovata* Walk.

J. 65/11 No

85/6 Can.

Fam. Accipitridae Mor. 59.

227. Point edge  
Ridges myth name  
enucleatus made manifest

*Accipitria* (Fritsch) *enucleata* Guen Mor 0. Pack. Guido 322  
*reticulata* Walk. Gr & Th. E. & 282  
*recondita* " Gr & Th. Larva smooth slender  
*meridionalis* " Gr & Th. Feeds concealed under low plant  
*concolor* " Gr & Th. Pupa subterranean or lives in a  
 grass, occurs among leaves. Pack. Guido 323

Hab. Ma (TG) Can. (Saunders) not uncommon.  
 Accipitria known in England as Marsh hawks. Newman 76

personata very like

*Accipitria persimilis* Gr PESP. I. p 347. pl 3 fig 5.

Ins pl 67  
 Pg 27. fm Giffy. nov sp.

Ins pl 46  
 Pg 5. Call of Mr Saunders Mac

Hab. N.Y. (Gr). Mac. (Saunders)  
*Accipitria familiaris* Walk.  
 " *replicata* " Gr & Th. E. & 288

Canada Saunders *Accipitria innotata* Guen 2 *A. semilaria* Walk *A. antecaria* Walk  
 indistinct plumage or brownish

*Tympanuchus* honor  
 drp a man  
 wings green huma feathers  
*Accipitria* H. Sch.

*Haematopus* of Saunders list See Fidoniidae p 133.  
*Prothymnica* of rosalia Gr X4/14

Fam Caberidae. Mor 59.

stygiaios  
 close or covered.  
 justula a simple  
 stye

*Stegania* (Guen) *pustulata* Guen Mor 59.  
*Cabera* (Fritsch) Mor

\* Larva feeds on foliage of Maple" Saunders notes.

Hab. Mass. (Saunders), Can common (Saunders) Food plant Maple (Sapindus)

Ins pl. 65  
 Pg 14. call of Mr Saunders Mac

Ins pl. 76  
 Pg 14. call of Mr Saunders Can.

myth name

*Cabera* (Fritsch) *erythromaria* Guen Mor 59.

Ins pl. 84  
 5 Ins fm  
 M. Saunders  
 Canada }

Hab. Mrs. (TG) Can (Saunders)

zophorus  
 a small bug ugur.

*Corycea* (Kup) *vestigata* Guen Mor 60. Ann Ent. 1. 223.  
*Bryta* Steph & H.S. Mor  
 ? *Coronotis* plecta Grote PESP. I. 218. (no)

Ins pl. 53  
 Pg 14. Mac.

Ins pl. 68  
 Pg 9. call of Mr Walsh  
 Helen

Hab. Ma (TG), Illin (Walsh) Can (Saunders) Can (Can Ent. 1.13)

Cenius Saunders  
 albus white

*Cenius* albata Guen Mor 3

*C. hemimela* Guen Mor 3

Hab. Cacuna (Can Ent. 1.13)

Macaridae Mor. &c.

- Anulapis* Guén  
*Macaria* Curtis  
*Halia* Duf

*Fidonia bicoloraria* ns Monck Proc. Biol. Soc. Nat. Hist. XII. 83.

Hab. Man.

CV/3

*Fidonia Taxonii* ns Monck Proc. Biol. Soc. Nat. Hist. XII. 83. 171.

New Eng. State

CV/1

*Anulapis trispinulata*

1.40 L. gray sprinkled with bluish dots & short lines head & neck slightly thicker than body I 1858. 825  
 Ds. all gray thickly sprinkled over with black dots & small brown spots

*Halia mavarica* Beck Manag Rep. 1870

Cat. Nat. N. 685

introduced from Europe

feeds on Currant & gooseberry

Fidoniidae Mor. &c.

- { *Siphona* Guén  
 { *Fidonia* Frets. H. Sch  
*Bamatodes* Guén

*Numeria* Duf

- { *Selidosoma* Led.  
 { *Fidonia* H. Sch  
*Boronia* H. Sch  
*Fidonia* Frets  
*Haematopis* Hil  
*Gonytodes* Guén  
*Aspidates* Frets.

\* *Lorogramma*. Fidoniidae  
 Saunders list

*Eusidonia notaria* Walk. I 65/9 Md  
 " " Math. 9 83/24

*Fidonia finitaria* Gutt. 85/22 & 23



*Hemilelophus grataria*

Eggs deposited in rows of about 20. along the edge of a leaf or along the stem of the common chickweed (*Stellaria media*)

Larvae loop themselves into all manner of shapes especially into a circle

Feed on the leaves, etc. Has a habit of jerking itself away to a considerable distance when disturbed

Pupa formed within a slight web attached to their food plant.

Probably passes the winter in either the egg or larva state" Riley

Food Plant Chickweed Riley

*Dactylis glomerata* var. *cacanifascia* Gr.

spur. Blooms  
Aug. 15. punishment  
or vengeance  
gratus acerabile

*Haematoptis* (Hub.) *gratularia* (Fab.) Mor. & T.  
Saxatilia Hub. Mor.  
Chickweed Geometer Riley

Am. Ent. Soc. 2. 182  
Riley 1st Rep. Mo. p. 179. pl. 2. 1821  
Lar. p. 104. fm. Riley  
Ins. pl. 57  
Fig. 17 Mo.  
Ins. pl. 97  
Fig. 18 Missouri coll.  
of Mr. Riley  
Foodplant Chickweed

Ins. quite common in Md.

Hab. Malabar (G.) Missouri (Riley) Can. common (Saunders)

aff.

*Haematoptis*? *Polyptychia*

Hab. Mo. (Grote)

*Polyptychia* *oralba* gr. 106/8

Ins. pl. 44  
Fig. 19. coll. of W. Grote Mo.

? Malais broad

*Gobaea californica* (H. & Sch.) Grote P. E. S. P. 2. p. 344.  
*Gonytodes* (Guin.) *brevimacra* Pack  
California Platina

Hab. Calif. (Mo.) Pikes Peak (Gr.)  
*Gonytodes* *brevimacra*. Pack. 98/15

Ins. pl. 26  
Fig. 7. coll. of Ent. Soc. Phil.

Noct. obliqua  
yespera. mordax  
diffus. to melt. or dissolve

*Loxogramma* <sup>ta</sup> *defluvia* Walk. Mor. & Saunders 611. Battani Fr. Nova Scot. Ind. 2/87  
Hab. Can. common London (Saunders.) Nova Scotia (Battani)  
Ins. pl. 83  
Fig. 32.

*Loxogramma* placed by Saunders in Totonidae

Cunia? *Paunias* *Loxogramma* *subaequaria* Walk.

Hab. Can.

*Aspitates* (Fabricius) *dissimilaria* (Hub.) *coloraria* Fab. or *Sigmaria* Guen. Mor. 61.

*Aspitates dissimilaria* (Hub.) Fig. 71.  
Luteum 23 mm. Lep. 14 mm. not lar. sp.  
in Cenizo

*Eucraspilates* <sup>expansata</sup> *Spinia laticornis* Pack.  
crysphilates

Sam Herenidae Mor 61  
comes here  
Abraxis. Leach.

Sam Larentiidae Mor 61.

{ Larentia Zieits  
    Operabia Siph  
    Eupithecia Luctis  
    Gefriodes Guen  
    Ypsolopha Siph  
    Melanthis Siph  
    { Melanippe Siph  
        Cidaria Freit. H. Sch.  
        Anticea Guen  
    { Coremia Guen  
        Cidaria Freit  
    { Phalaenox Siph  
        Larentia Freit  
        Scolosia Siph  
        Spargania Guen  
        Cidaria Freit.

Lobophora vernata pack.

8577.

4178.

Garentiidae Mor 62

*Garentia* prop. name  
germinalis doubtful

*Garentia* (Curtis) *geminata* G.R. P&SP 6. p. 29. pl. 3 fig. 6.07  
*Oporavia* Stephens

Ins pl 78  
fig 7. fm G.R. fig.

Hab. NY (G.R.) Can. (Can Ent 1. 89)

? <sup>slightly marked</sup>  
or wavy  
? ev well  
marked  
more cutting painful

*Garentia* *dilatata* Mor 62.  
*Oporavia dilatata* Tilly 5th Rep. Mor 62. See Geometridae p. 181.  
Hab. N. Am. Europe Mor

*Eupithecia* (Curtis) *microsticta* Grote P&SP 2 p. 82. pl 2 fig. 15. Pack. guide 325

*Larva* taken on Clover & Ragweed Food plants Clover or Ragweed.  
Sep. 2nd

*Eupithecia* "Larva rather short stiff often marked with several  
brownings, the head is small or rounded it feeds on trees & low plants  
sometimes on seeds of plants the pupa is obscure conical (Grote)"  
Sar pl 16  
fig 19, 21 Clover on Ragweed  
Mid Sept.

Hab. Md (G.R.) North Va (Grote)  
Eupithecia pup. moths Newman 118

Ins pl 61  
fig 28. 9ma. Suspl 73  
16. fm Grote fig

anguis. snake  
unusual lined or striped *Eupithecia angulineata* G.R. Ann Lyc Nat His NY. vol 8 p. 28. pl 16 fig 12. ap 1867

*Eupithecia fusasciata* Walk. (*Eupithecia* G.R. pl 82. 82. *Eupithecia* G.R. pl 85 2. 82.)  
*Sophora* *polyporata* Walk. G.R. pl 82. 82.  
*Lacistema longipinnis* Walk. G.R. pl 82. 82.

Ins pl 77

fig 37 fm Gr. fig

? *Eupithecia* (aff)

*Eupithecia geminata* G.R.  
*Sophora* *aberrans* Walk. G.R. pl 85 2. 82.

Ins pl 46  
fig 15. Ny fm coll. of  
Mr. H. C. Muller

*Eupithecia curvilineata* G.R.  
*Sophora fusasciata* Walk. nearly allied G.R. pl 82. 82.

scolopax ?  
monococh

*Scolopax* (Guin) *scolopaciniaria* (Guin) Mor 62

*Ypsolites* (Sleph) *pluvialis* (Guin) Mor 62.

*Melanthis* (Lam) *ruficollata* (Guin) Mor 62.

Ins pl 52  
fig 17. Ma.

Ins pl 92  
fig 4. N.H. Hamp. coll.  
of C.R. Lodge

? *Melanthis ruficollata* (affinis)

Ins pl 20  
fig 31. Canada

Hab. Can (P.G.)

(134)

*Butalis cerealella* "caterpillars eat into the grain <sup>only one</sup> occupying each Kernel. Curtis 338. 6 (most barley & maize)

*Sonra granula*, wolf or little grain moth. Curtis 337.

" before filling <sup>any grain</sup> the granary cleanse & scour thoroughly it thoroughly in the winter if it is possible Curtis 337  
The moths may be destroyed by in the spring by burning lamps or gaslight. At the same season turn over the corn to destroy the eggs & distract the young caterpillars" Curtis 337.

" Burning sulphur & creating sulphuric acid will kill the moths in a close apartment. Curtis 337

" Scattering salt over the (grain) corn is beneficial & if powdered, mix'd with the corn will kill the caterpillars. or (salt) it may be dissolved in water, Scatter <sup>one</sup> & sprinkle over the heaps. Curtis 338

" a small heap of corn (grain) left undisturbed frequently turning over the rest is a sure & simple plan of catching the larvae & they can easily be destroyed by pouring boiling water over them Curtis 338

? males dark colored  
males brown

*Melanippe (Mops) gothicata* (Gün) Mor 62  
*Otidura* Trin. & Schaeff.

{ *Melanippe hastata* Linn. not distinguishable from *Mops* } Ins pl 52  
taken in Labrador. Proc Amer Acad Sc. 1869  
Hab. Ma. (St. G.) London. Can. Scarce. Quebec common (Saunders) Can Can Ent 1. 13.

intermedius  
intermediata

*Melanippe intermediata* (Gün). Mor 62.

Hab. Pa. (Mor) Ma (St. G.) Can. rare (Saunders)

Ins pl 62  
fig 7. Ind.

Canada Saunders *Melanippe lacustris* (Gün) Morinis 62. ♀ propinquaria Walk.

? Ixodes a lake, pool 1

Hab. Ny. (Mor) Can (Saunders)

adult against  
skin, facemask (eggs)  
Can. Saunders

*Anticea* (Gün) *vasiliata* (Gün) Mor 62.

Hab. Can. (Saunders)

? series  
Can. Saunders  
propinquus to defend  
flight  
aberrant

*Cornelia* Gün *propinquata* W. Norr. C. palparia Walk.  
*Leptaria* Trouvot H. Sch. Mor.  
*Cornelia* *alterygia* Walk.  
" *Pigrina* Walk. G.W.C. No. 62. 58

Can. Saunders  
Xiphia mister  
Blew to live  
various belonging to the north

*Cheumatobia borealis* Hub.

G.



Grizzled graceful  
wings wing  
intestines inwards  
or hidden

*Phibalopteryx (Steph) intestinalata (Gün.)* Mor 62.  
*Larentia (Freitsch)*

Ins pl 83  
Pg 30 coll of Mr Saunders  
Can.

Hab, Can rare (Saunders)

?

*Plomaria*  
*Phibalopteryx multifasciata* <sup>of</sup> Linn Mor 0  
*Choroplyctis* " of Dr Mor Coll.

Ins pl 65  
Pg 44 Med

Hab Md (TG) London Can. very rare (Saunders)

multis, many, much  
fasciatus stripes

520 to 615  
darkness.  
undulatus wavy or  
full of waves

*Scotodia (Steph) undulata* Lin. of Sauborn's coll. Belknap Pg No Scot Est 2/17  
*Eucosma undulata* Grote Coll. Fletcher 16<sup>th</sup> Rep. 353

*Eucosma*; the scallop shell moth. Newman 178

Ins pl 52  
Pg 21 Ma.

Hab Ma. (TG, London Can rare (Saunders) Can Est 1/13.

Nova Scotia Bottom

Lou Cherry.

dubito to doubt

*Scotodia dubitata* Walk. Saunders list. The tissue moth of Newman 176

Ins pl 87  
Pg 12 Coll of Mr  
Saunders Can

Hab Can (Saunders)

Can Saunders  
affermo to affirm  
establish

map to envelope  
Can Saunders  
Magnolia a tree

*Scotodia affermaria* Walk.

*Sparagmia (Lacis) magnoliana* (Gün.) Mor 43.

Hab Can

2114 pos  
a brown or brown  
blue black  
Coloratus colored

*Cidaria (Freitsch) atricolorata* ♀ G.H.R. coll

CXIII/9

Ins pl 71  
Pg 9. Coll of M So 412.

annulus gilded

*Cidaria dorsulicincta* ~~annulata~~ Sauborn's coll.

see also over page

Hab N.Hamp. Sauborn.

Ins pl 93  
Pg 6. Coll of W. Sauborn  
8-7. From N.Hamp.

*Cidaria*

Sp fm Canada

Ins pl 45  
Pg 6

Coll of Wm Fay Pg Leeds Eng  
(135)

*Cedaria diversilineata*. Saunders Rep. Trout growers Assoc. Ontario 1870. 104

Lar leaves the winter sometimes if not invariably in the caterpillar state hybernating in some secure retreat the larvae which had hibernated entered the chrysalis state in early spring the moth was produced about 10 days afterwards, which having deposited their eggs on the foliage which hatched into caterpillars early in June these attain full size in June change into chrysalids & appear as Moths in Aug., these latter deposit their eggs from which larvae are again produced which attain nearly full growth before winter & hibernate as larvae.

*Cedaria Lachnospargotia* Walk 88/17.

*Cedaria truncata* Huf. Pack. Proc Amer Assoc Adv. Sc. 1869

### Labrador

*Cedaria abrasaria* H.S. Pack. Proc Am Assoc. Adv. Sc. 1869.

### Labrador

*Cedaria* prob. Pack guide 326.  
Black Span worm of Wm C. Fish's report to the Cape Cod Cranberry growers Assn.  
Larva found by Mr W.C. Fish stripping the Cranberry plants  
in Harwich Mass late in Aug. .80 of an inch in length. Has no web.  
I probably only an occasional feeder on the cranberry.

Pupa prob formed under the earth.

(Rept published in Farnmouth Register Mass. Sep 10. 1869.

" Lar color dull reddish brown simulates the color of the  
twigs of the plant. It is finely lined with still darker  
lines."

Food plant of age  
Cranberry,

*Cidaria* ♀

Larva wob of *Cidaria* has been found by Mr W C Fish sweeping  
the cranberry plants in Hanover N.H. late in Aug. see description  
of Packard's Guide p. 320.

Food plant. Cranberry

*Cumatilis*  
water.

*Cidaria cumatilis* Gyr Ann. Lyc Nat His. NY. Ap 1867 vol 8 p. 29 pl 16 fig 13.

Ins pl. 77  
fig 20. fm G.R. fig

diverse divers sundry  
lunatus lined

+ S. Ins pl. 108  
fig 9. fm in  
208.

Saunders' Fru. growers Assoc Ontario 1870. 104 Can Ent 2/1888 Bellaria to Nov Scot Ent 2/1879

*Cidaria diversicolorata* (Hib.) Mor O. Guen. Pacif Guide 325. Ann Ent 2 p 74.  
Graze Cidaria Saunders. Lar pl 108 fm Pack.

Larva found by Mr Saunders feeding on the Woodbine  
body above dark brown with a slightly reddish tint  
tail of a darker shade along the dorsal region being the  
tail of a darker shade along the dorsal region being the  
color of the twigs of its food plant.

Habt. Ma. (T.G. Can., Saunders) Tuba state sits about a week. Plant Woodbine  
Nova Scotia (Bellamy)

Mr. Packard has also found both brown & green sp. in midsummer feeding on Grape vine (Pack.)

June. Early part of summer of leaves the remaining, probably  
by the second week. Ann Ent 2/1888. Larva occasionally in the larva  
occasionally in the larva state, probably in some  
secure retreat.

American dry subvirginia region  
Ampelociss quinquefolia (L.)

*Cidaria herculeana* Guen Mor O.

Ins pl. 88  
fig 8. coll of M  
Saunders Can.

Hab. Can. (Saunders)

*Cidaria propulsata*.

Saunders Coll.

propulsive to swim  
away

Hab. Mass. (Saunders)

near figure.

Ins pl. 98  
fig 7. coll of Mr. Sauborn  
Mass.

*Cidaria hypoleuca* (Linn)

Saunders Coll.

Shurtliff's *Cidaria*. (*Euphyesa* Bach. S.)

Ms. Sp from the White Mts. N.H.

Ins pl. 98  
fig 8. coll of Mr. Sauborn

Hab. N.H. (Saunders)

*Cidaria shurtliffei affinis*

Ins pl. 83  
fig 19. coll of Mr  
Saunders Can.

Hab. Can. (rare) (Saunders)

*Cidaria prunata*. (Auth. Santorn.)

Ins pl. 94 & 94/34  
fig 32. coll of Mr. Sauborn

Ins from Mt Washington N.H. Aug  
Hab. N.H. (Santorn) imp fm Europe (S)

*Cidaria* ♀

Ins from summit of Mt Washington N.H.  
Hab. N.H. (Santorn.)

Ins pl. 94  
fig 34. coll of Mr. Sauborn

*Cidaria hastula* Guen

*C. propulsata* Walk.

*C. cacticuspargaria* Walk.

*C. immanala* Walk. &  
a var. *russata*. (W.M.)

(135)

Fam Eubolidae Mor Cat 63*Eubolia* Dup.Fam Goniidae "*Heterophleps* HSch*Odenia* Bdv.\* (*Heliomata* not in Mor.)*Anisopteryx* Steph.*Cyberna* Latr.

Fam. Luboliidae Mor Cat. 69

ex well  
Béres. cast or thrown  
custodia to preserve

*Lubalia* sp. custodia Guén.  
local Calif. Mor.

Fam. Scironidae Mor 69.

*Heterophleps* (H.Sch.) *triguttaria* (H.Sch.) Mor 69.  
expos dissimilat  
by three gutta drops on spots

Hab Pa (Mor) Md (G) Can common (Saunders.)

Ins pl 67  
fig 1. Mor

*Synaptia* Hüb. *albivittata*. Guén Grate PESR 2 p 67. pl 3 fig 34 & PESR 3 p 542.  
allus white  
indus yellow

Cévennes. Guén. " Guén Mor 69.

" Ins. resembles the European *B. bimaculata* & appears general  
general in its distribution through the Middle states" (Gr)  
Sonage appeared June 7<sup>th</sup> (Can. (Saunders))

Ins pl 65  
fig 13. Mor coll of  
M. Samovar.

Hab Mass (Lawson); Mid St. Can. Long Is? (Grate) (Can. (Saunders))

Ins pl 73  
fig 6 fm Grate fig

*Baptisia* (apini)

ins pl 44  
fig 3 coll of M. Grate

*Baptisia* *albofasciata* Grate Grate PESR 2 p 66. pl 3 fig 2. & PESR 3 p 93.  
Cévennes  
Melanopyre *reciproca* Walk. GHR & AED. 2. 82.

Ins pl 78  
fig 5 fm Grate fig

Hab Berk. Peak. (Gr)

*Holcimata* (Grate) *elaborata* Grate PESR 6 p 30  
*Eratina* (Swalek) *elaborata* Grate PESR 3 p. 542.  
*Baptisia* *elaborata* Grate PESR 2 p 67. pl 3 fig 58

Ins. flight apparently diurnal

Ins pl 73  
fig 4 fm Grate fig

Hab Va (Grate)

*Holcimata* *insulata* Gr PESR 6 p. 30  
*Oreolimata* *insulata* Grate PESR 3 p. 542.  
*Baptisia* " Grate PESR 2 p 67. pl 3 fig 48

Ins pl 73  
fig 3 fm Grate fig

Hab Va

*Holcimata* Gr. *cycladata* G.H.R. PESR 6 p 30 pl 4 fig 9. a } Ins pl 78  
having a wavy down on } 17 fm G.H.R. fig.

Ins "male resembles female but the bands on the wings  
are wider" G.H.R.

Hab N.Y.

477-66 600  
478-78 600  
W 99  
100-104-64-34X 10359  
hachi minute points on antennae & produce a  
short curved line of points of hairs coming  
out & impervious color brownish with brownish  
streaks

*Anisopteryx vernata*. Insects destroying

*Nothonus curvipes* (a mite) destroys eggs. Kelly Rep.

*Micragaster* (Hymen) " Larvae " "

each individual larva as it eats through  
the skin of the Canker worm spins a pale  
greenish white cocoon in its stool in company  
with parasites destroying about 10 per cent of w

*Phytomyza* (Hymen) Eggs deposited in eggs.

*Tachina*? Sip destroys above one  
in 1000

Insect *Calosoma scrutator* (L.) destroy, Larva & ms.

" Calidium (Col) " "

" *Eumenes fraternus*, Jr. Four of ten takes as in  
Potter wasp. Hymen 18 or 20 worms to a wasp  
used as food for its lar-

*Anisopteryx vernata*. " mud of tar which will  
mure the tree. S Foster of Iowa recommends as may  
of Sorghum thickened with flour. When the worms have  
covered it, kill them with oil on another coat  
also shaking up the worms off on to a light coat  
of dry straw which is then set fire to burns.

Am Jul 2. 288

ugly female  
if oil turns  
around the base  
late fall  
on the tree  
not when it  
easily be broken

abstain.

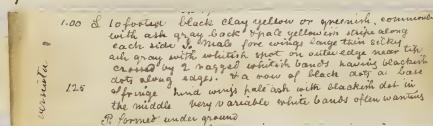
With worms when on the ground may be destroyed by s

*Anisopteryx vernata*. Po Jul 2. 80

*Anisopteryx*. canker worm  
eggs sucked by a mite. *Nothonus curvipes*  
worms injur

Foster of Iowa recommends  
the worms have covered it  
holding off the worms themselves  
to a flame! Am Jul 2. 288

*Anisopteryx vernata* Po Jul 2. 17. First reported in Michigan in 1864 by Sanford Howard.  
Oil from holly together to a proper consistency so as to form an adhesive  
mixture is said to be better than tar (to form a ring round the trunk to  
prevent the winged female from ascending) as it does not dry up on hot  
days. Tar however is also recommended



you *Anisopteryx vernata*.  
Remedies bandages of old rags 3 or 4 makes wide just tightly around trunk abt 3  
feet from ground, smear with thick clay wash Indian oil covered with tar as  
much tar as will cling to the bandage without running from the bark & thus  
ringing the tree. This should be applied shortly before sunrise. Renewed every  
night evening, as long as the moths are about, to prevent the tar from becoming  
hard & dry. Any common oil may be used with it to dilute it  
also a bolt of sheepskin saturated with Kerosene oil with the woolly side  
out is said to be if carefully applied kept constantly saturated & prob a  
useful remedy. Bettina Rep. Linseed growers Ass'n Ontario Can 1870. 87

*Anisopteryx vernata* Rich. LeBaron & Rep.  
Nov 14, 1870. 99

*Anisopteryx vernata*.

The winged male has sometimes been seen to  
carry the female up the tree by means of his  
wings (several instances)

Sanborn

trunks to be thoroughly soaped or washed  
soap or oil(?) from the paint occupied by  
protection to the ground to destroy the eggs  
have been laid on that portion  
The cheapest & perhaps the most effective  
application to prevent the moth from ascending  
the tree are strips of paper or cloth covered  
tar or pitch is better melted and rubbed on  
or with a brush laid around the trunk the  
or four feet from the ground. These applica-  
tions must be kept soft or sticky for if a particle  
skin forms on the surface they will prove  
obstacle.

Sanborn



## Tortricidae Leach. Westwood.

<i>Hypercallia</i> Stephens	<i>Bactra</i> St
<i>Cylophila</i> Hill	<i>Ulobia</i> Hill
<i>Carice</i> Hill	<i>Cynipsia</i> Cest
<i>Tortrix</i> Lin. (+ Clem.)	{ <i>Semoris</i> Tr. (Clem.)
<i>Lorotaenia</i> St. (& Clem.)	<i>Orthotenia</i> St. Cest.
<i>Philodone</i> Hill	<i>Notocelia</i> Hill
<i>Artula</i> St.	<i>Paeclichroma</i> St
<i>Antithesia</i> St.	<i>Stigmella</i> St.
<i>Spilonota</i> St.	<i>Eucromia</i> St
<i>Hausimone</i> St.	<i>Lophodera</i> St
<i>Pseudotomico</i> St.	<i>Succothrypus</i> Cest
<i>Steganoptycha</i> (+ Clem.)	<i>Peronea</i> Cest
<i>Anchylopera</i> St	<i>Acleris</i> Tr.
<i>Phialcea</i> St.	<i>Leptogramma</i> Cest
<i>Roxana</i> St.	<i>Teras</i> . Tr. (Sann)
<i>Carpocapsa</i> . Tr	<i>Nictyopteryx</i> St

<i>Cajua</i> St
<i>Chamaephilia</i> St
<i>Argyrolepis</i> St
<i>Aplolepis</i> St
<i>Orthotenia</i> St
<i>Rhyacionia</i> Hill
<i>Eupithecia</i> St
<i>Pitheciroa</i> St
<i>Cochylis</i> Tr
<i>Loxopexa</i> St (24 clm)
<i>Xanthosetia</i> St
<i>Phalaecina</i> St
<i>Orthotelia</i> St

Saunders list

*Loxotaenia*  
*Podesca*  
*Teras*.  
*Scaphita*

Morris list

*Loxotaenia*  
*Tortrix*  
{ *Carposcapa*  
*Penthe*  
*Argyrolepis*  
*Cressa*  
*Ephydiphora*

## Arrangement of Genera &amp;c. in Mss. T.G.

<i>Tortrix</i> — West.
<i>Lorotaenia</i> — "
<i>Artula</i> — "
<i>Antithesia</i> — "
<i>Spilonota</i> — "
<i>Steganoptycha</i> — "
<i>Anchylopera</i> — "
<i>Carpocapsa</i> — "
<i>Cynipsia</i> — "
<i>Semoris</i> — "
<i>Paeclichroma</i> — "
<i>Peronea</i> — "
<i>Teras</i> — "
<i>Argyrolepis</i> — "
<i>Cressa</i> — Mor
<i>Ephydiphora</i> — "
<i>Cochylis</i> — West.
<i>Loxopexa</i> — "
<i>Xanthosetia</i> — "

<i>Hedya</i> . Agass. Tr.
+ <i>Stigmmonota</i> — Clem
+ <i>Halonota</i> — "
<i>Leptoris</i> — "
<i>Sincretes</i> — "
<i>Macrodia</i> — "
<i>Siderea</i> — "
<i>Euryptychia</i> — "
<i>Callimosema</i> — "
<i>Toplocuma</i> — "
<i>Grapholita</i> — "
<i>Exarisma</i> — "
<i>Toidesca</i> Saunders
<i>Scapula</i> "
<i>Cryptolechia</i> "

Clemens PES. 5 p. 13.

+ *Semoris*  
+ *Lorotaenia*  
+ *Xanthosetia*  
+ *Steganoptycha*  
+ *Tortrix*  
+ *Calonota*  
+ *Leptoris*  
+ *Sincretes*  
+ *Macrodia*  
+ *Siderea*  
+ *Euryptychia*  
+ *Callimosema*

*Toplocuma*.

+ *Grapholita*  
+ *Hedya*. Agass.  
*Exarisma*

As no reliable list of the Tortricidae of the US has been published, no particular order of arrangement has been followed, excepting that all of Westwood's genera are placed first (with Morris' genera, *Cressa* & *Ephydiphora* between *Argyrolepis* & *Cochylis*) of Clemens' genera at last

Arranged in alphabetical order
<i>Siderea</i> .
<i>Tortrix</i> .
<i>Leptoris</i> & <i>Tort.</i>
{ <i>Phycidonia</i>
<i>Lorotaenia</i>
<i>Peritricha</i>
<i>Calonota</i>
<i>Grapholita</i>
<i>Steganoptycha</i>
<i>Euryptychia</i>
<i>Callimosema</i>
<i>Toidesca</i>
<i>Anthophora</i>
<i>Cryptolechia</i>

seed grubs with 6 pectoral 8 ventral & 2 anal fins & in a leaf curled up by the insect itself & buried tube open at each end & which they serve them for 1st & 2nd of various plants fastening several of the hair growth Other again reside within the pulpy apple & plum to which they are occasionally very

7

21 Welsh

~~2000~~ make 10 miles at 60° water & natural  
pp. do not rise generally taking up their water in  
the air current by the lower itself. Rather frequent  
young birds which fluctuating the beams take  
others again ride in the upper substance of great  
water) Robinson *Birds E.C.* 2 pp 272-3 pl 8 fig 22.  
chler) & generally known as - in the eastern States. (R) Packard guide 334

Vortix. H 366.370-375.  
V.107 Faecia short subhorizontal or drooping, 2 joint  
tuspid antenna simple slightly pubescent ♂  
wing broad anterior rounded at shoulder posterior  
large L concealed in a rolled up cap.

*Tortrix alisellana* n.s. Robinson Tr AES. 2 p. 267. pl 1 fig 15

Hab Ohio (R) Can (Saunders)

Inspl. 93  
Fig 13. from Mt Washington  
Coll. of M Sanborn.

*Toronia breviornatana* Robinson Tr A S. 2 p. 269. pl 4 fig 248-254  
*Lestonia breviornatana* Clem P&SP 5. p 140. Nach givne 234.

Hab. Mass. (Sanborn) Can West (Pettit) N.Y.

Ins pl 97  
fig 22 Qd Pettit Coll of M Saunders  
Can.

*Tortrix cana*. n.s. Robinson Jr A.S. 2 p. 276 pl 6 fig 5.

Hab Pa. (R) Tornix Caryae (Rob) Can. 99/1

*Tortrix caryae* n.s. Palaeoindian in A.E.S.:2, p. 270 pl. 4 fig. 26.

Hab Illu. Pa. Re

*Tortrix cerasivorana* Robinson ♂ A E 2 ♀ 275 pl C fig 47 ♂  
*Paratorta cerasivorana* Fitch 1859. p 64 pl 2 fig 8. Mar 50 Fitch & H  
Chevy eating tortrix

5 score yellow head neck rump and 4 feet black with a few fine hairs from mouth shiny dark purple forming in rear. I brown & flat when at rest with wings with irregular wavy bands of bright color yellow & black on blue rear wings & all beneath pale ochre yellow

Ins for 67  
fig 7 coll of  
W. Gauthier

(136)

of found in the floor walls small, oval, smooth.

### Tortricidae Leach. Westwood.

<i>Cyperus callicarpus</i> Stephens	<i>Bactra</i> St
<i>Hedysarum</i> Hill	<i>Ulabria</i> Hill
<i>Earias</i> Hill	<i>Cneophastia</i> Curt
<i>Tortrix</i> St. (Clem.)	<i>Semaeonis</i> St. (Clem.)
<i>Lorotomaenia</i> St. (Clem.)	<i>Orthotomaenia</i> St. Curt.
<i>Phlebodes</i> Hill	<i>Notocela</i> Hill
<i>Astula</i> St.	<i>Pacidiachroma</i> St
<i>Antithesia</i> St.	<i>Stylochoma</i> St.
<i>Splanota</i> St.	<i>Eucromina</i> St
<i>Hesine</i> St	<i>Spathocelis</i> St
<i>Pseudotomis</i> St	<i>Suturothrypis</i> Curt
<i>Steganopteryx</i> St. (Clem.)	<i>Peroneus</i> Curt
<i>Uncylapora</i> St	<i>Ascrea</i> Hill
<i>Phialacea</i> St	<i>Leprogramma</i> Curt
<i>Roxana</i> St.	<i>Teras</i> St. (Clem.)
<i>Carhocapsa</i> St	<i>Nicetia</i> opteryx St

W. W. Wilson's *Geography* was published in 1890. It was the first book to introduce the concept of "geography as a discipline." The book was well received and became a standard textbook for many years. It introduced the concept of "geography as a discipline" and helped to establish geography as a separate field of study.

*Argyrolepis*  
*Craesia*  
*Ephydriphora*

Clemens PESP 5 p 133

Arrangement of Genera &c. in MSS. J.G.	
<i>Tortrix</i> — West.	<i>Hedya</i> — Agass. Tor.
<i>Sorotunia</i> — "	
<i>Ditata</i> — "	+ <i>Stigmoneata</i> — Clem
<i>Antithesia</i> — "	+ <i>Halonota</i> — "
<i>Spelonota</i> — "	<i>Leptoris</i> — "
<i>Steganoptyla</i> — "	<i>Smerotes</i> — "
<i>Anchylopera</i> — "	<i>Mexolia</i> — "
<i>Carpocapsa</i> — "	<i>Sidera</i> — "
<i>Cneophasia</i> — "	<i>Euryptychia</i> — "
<i>Sericoris</i> — "	<i>Cathmosoma</i> — "
<i>Paeolochroma</i> — "	
<i>Peronea</i> — "	
<i>Serata</i> — "	<i>Solelocusma</i> — .
<i>Argyrolophus</i> — "	
<i>Croesia</i> — Mor }	<i>Grapholite</i> — "
<i>Ephydriphora</i> — "	<i>Exantemata</i> — "
<i>Cochylis</i> — West.	<i>Pedicula</i> Saunders
<i>Soropera</i> — "	<i>Scaphula</i> — "
<i>Xanthosetia</i> — "	<i>Catocala</i> — "

*Cernens* P.  
 ♂  
*Stegonota*  
*Sericoris*  
*Dorotaeenia*  
*Xanthosoma*  
*Steganoptycha*  
*Tornix*  
*Calonota*  
*Leptoris*  
*Sericotes*  
*Musoxidia*  
*Sideria*  
*Eryphytchaea*  
*Callimosema*

- \* Goplocamus.
- \* G. aphrodisia
- \* Cedya. Agass.
- E. artemia

As no reliable list of the Tortricidae of the US has been published, no particular order of arrangement has been followed, excepting that all of the wood genera are placed first (with Morris' genera). *Crocsia* & *Ephippiphora* between *Argyrotaenia* & *Cochylis*) & Clemens' genera 49 last.

Linen first set the example of having the specific names of the Tortricidae  
and in ana. & the insects in Ella (see Genera) Pack guide 345.

Tortricidae, Robinson, Tr A E.S. 2 p. 261

alices to grow what manu & ana *Tortrix Lin;* *albicoma*, Robinson Tr A E.S. 2 p. 273 pl. 5 fig. 41-42

*Xanthoscelis St;* *albicoma* Clem P&S.P. 5, p. 137.

Ins pl. 68

Fig 11. coll of M. Walsh

In's allied to *Tortrix bergmanniana* Linnae of Europe. Robinson

Kew, Mass. N.Y. Pa. West Va. Ohio Texas (Robinson) (Linnae Walsh)

Ins pl. 75

Fig 8. coll East Soc Pacific

*Tortrix vitana*. Europe. "Larva very destructive to the vine in France the larvae  
rolling up the leaves fastening them with threads" No. 5, 8; West. 2. 2604

alcyone cont.

*Tortrix algidana* (Linnae) Robinson Tr A E.S. 2 p. 272 pl. 5 fig. 32.

"*Gelidana* (Motschler) & generally known as - in the eastern States (R) Packard guide 334

Hab Labrador (Graeser) Nat Washington (Saunders)

Ins pl. 93

Fig 13. coll Nat Washington  
coll of M. Saunders

*Tortrix algidana* Motsch., 1851.

*Tortrix alisellana* ns. Robinson Tr A E.S. 2 p. 267. pl 1 fig. 15.

Hab Ohio (R) Can (Saunders)

Ins. pl. 89  
Fig 7. coll of M. Saunders

brown short  
hornata cornuta

*Tortrix breviornatana* Robinson Tr A E.S. 2 p. 269. pl. 4 fig. 248-254

*Leptotis breviornatana* Clem P&S.P. 5, p. 120. Pack guide 334.

Hab Mass. (Saunders) Can West (Petit) N.Y.

Ins pl. 97  
Fig 22. coll of Petit. Coll of M. Saunders  
Can.

*Tortrix cana*. ns. Robinson Tr A E.S. 2 p. 276 pl. 6 fig. 50

Hab Pa. (R)

*Tortrix Caryae* (Rob) Can. 99/1.

the inakore

*Tortrix caryae* ns. Robinson Tr A E.S. 2 p. 270 pl. 4 fig. 26.

Hab Illin. Pa. (R)

*Tortrix cerasivornana* Robinson Tr A E.S. 2 p. 275 pl. 6 fig. 47 5

*Loxotenia cerasivornana* Fitch 1857. p. 64 pl. 2 fig. 5. Mar 50. Fitch & N.Y. Agric. Soc. 1856 vol 16 p. 882

Cherry eating tortrix

Ins pl. 67

Fig 7. coll of  
M. Saunders  
Can.

Larvae July tie the leaves together with a silken thread

Here in a large nest in Society.

Ins may be known by its bright yellow color & none other of the described  
insects of this genus appear to have the just mentioned so { Good plant Cherry  
Cult N.Y. (Fitch) Mass (Saunders.) sure yellow without any  
smoky or dusky shade

Fitch

Some yellow ones much more pale & less white, with areas brown  
from insect feeding, etc. Brown bordered with yellow  
brown veins which are not certain enough with some yellow areas borders brown yellow green

(136)



- R Sertularia cava confusa  
R " Caryo ~~macropora~~  
R " placidata fumosa  
" fumosa  
R " punctata furiosa  
R " fuscoleuca gressa  
R " gungitana lucidula  
R " incerta invoca  
R " laevigata lata  
R " latiflora leucostoma  
" oxyocarpa Pack  
R " palasana minutula  
R " nigridia pallorana  
P " paluana pavatella  
R " reticulata scutaria  
R " Sauborniana tephroana  
R " Kapulata viridescens  
" tenuiglauca Titch.  
~~Sphaerula oculifera~~  
~~Sphaerophlycta crispa~~ flavocellata  
barana cohlearia  
Methylaphexa occulata medifasciaria  
" fasciolana pulchellana  
" fasciulana tubulana  
" virginiana Lamia  
" flagellata striatana  
" tuberculata  
Ceropalesa oculana  
Crepipatia maculidorsana  
Sericoris fasciata & foecina  
" concinna & coruscans  
" instructa & versicolorana  
" fasciata & siernatana  
Spira - Brunneiflora eliana  
Veras deflecta & flavovittata  
" hastata lucana  
" maculidorsana & negrolivis  
" persicaria & placidata  
" semianula & tussignana  
" heburniana  
Angyrolepis guercifolia  
" guercifolia  
Crassia persicana  
Crucibyles angulatana humilihana  
R " humilihana donimaculata  
R " intertiefasciata labeculata  
R " leptana romptiana  
R " Rüdingiana  
Loxopora pacificana  
Nesoga crassiana delatana signatana  
" spoliata  
Stegmonota tristigma  
Calonota taentana & stimulana  
Liptena breviorulana  
Smucrotis viridescens

- Myriotrichia maderensis  
Sphaeria subnudata  
Propodiumthecodium zeligerana  
Euryblepharis  
Calamostoma scutatum  
Podocia alternans  
Scaphula lactifluana & tenuisima

## Uponanoididae 144

- Anacampsis sarcotella & muculata  
Aula Reduvella  
Hypenocnemis nullipunctella  
Angyronyx quercifolia quisquilia  
Lyctia speculifera <sup>luteola</sup>  
Isotoma flavopunctella malutella  
Chrysotrys euglypta

## Thelyctidae 146

- Dilicotteli basistigmella salicella  
" juglandella lucidostictella  
" angustifimbrella  
" chamaella  
Ischleria quisquilla solida gomfolilia  
" celinopunctella  
Phyllocoptes vulgaris lichenella  
Leucaspis ampliaruspunctella  
Bucculatrix coronatella bifasciella  
Anthonomus myrsae foliella confragolella  
Aspidisa splendens piceella dryophilella  
Salicella

## Tetratidae 148

- Upolobius punctidisculus  
" pauciguttella unicolor  
" flavidivittella  
Phytococcus coryliferus <sup>trifolii</sup>  
" multifolius & trimaculatus umbellus  
Tinea acapicepunctella inflavimaculata  
" crassella porcella costimella  
" dorsalis tanacetiella <sup>trifolii</sup>  
Pleuroxyana & ceratolella  
Opina  
Incurvaria labradorella <sup>trifolii</sup>  
Graziella volvella desmodiella <sup>trifolii</sup>  
" superbiopunctella blandella fuliginea  
renostella strigifemella  
Selvalaphia multella <sup>trifolii</sup> robustella  
Aptomyia torvella  
Myzocallis endogmella exultella  
Piniphila lignosella petiolla  
Xylestria puerariaella  
Amydria effronatella  
Acanthora piceanella arcuella  
Angyrophila orasella  
Opina aceriphella quadripunctella  
" boreella crataegi oleastri  
Passopteryx gemmifera <sup>ella</sup>  
Clemicella  
Bedellia <sup>trifolii</sup> <sup>renostella</sup>  
Staunalia



- Gomphocerus cibotella*  
*Coleophora caryaefolella* conylofolia  
 " viburnella Citogae tetrafolia  
 " queruella leucostygella  
 " concelerella rosafolella  
 " rosacella eratiphella  
 " cornuciscipella
- Hierachorista velatella*.  
*Nepticula coryliolella* ostracofolilla  
 " virginella plantanella  
 " Crataegi olidella  
 " microtheriella juglandifolia  
 " caryaefolilla subspicella  
 " vitisella austriachirella  
 " prunifolilla angustella  
 " plataea rosaceifolia  
 " hifariella piceolebella  
 " saginella
- Catostiga hinidella* acerella  
 " hamamalidella
- Opostega albogasterella*  
*Tricolephe alacella*  
*Tenaga pomifella*  
*Hypotrama servulella*  
*Misodina margaritana*  
*Strobisia indeperella* emblemella  
 " levipennella
- Breutlia inflatella* virginella  
*Marmara salicella*  
*Glyptoplexyx rugiginetella*  
*Gelechia rhopunctella* rubidella  
 " detinella nigritornella  
 " microfuscella fuscofuscella  
 " Gilvermaculella Labra's onella  
 " Angustipella punctigella  
 " galvoliniella apicellinella  
 " pulchripennella brunnella  
 " vaseppussella gallaginella  
 " Galleyungrella
- Haleocera chalceopontella* gibbosella  
 " purpuroconella modestella
- Enicostoma Packardella*  
*Pigritia ovive cornuta* ochrella  
 " laticapitella
- Hamatoselia tricinctulella*  
 costisignella
- Chauliodys canicinctella*  
*Laverna*  
*Chrysocista*
- Cycloplasis paucifolita*.  
*Elachista brachyclystisfoliella* orchideella  
*Wilsonia brevis vitella*  
*Euplocamus*  
*Stilbosis lesquella*  
*Lampronia caputella* (Europe)
- Microtrophorus* aux lae pierscoladactylus  
 caro uedaclylus  
 torridadactylus  
 marginadactylus  
 naevosidactylus

*Tortrix cinderella* { Riley 4<sup>th</sup> Rep. 46.  
Green apple leafy.

S. cuts leaves together generally folding a single leaf in two.  
Leaves fall from the tree, very much crushed to the ground  
when disturbed in feeding. the caterpillar does not confine itself  
to the *Barenchima*, found in company with *Pseudaletia hammondi*  
on apple foliage. - the pupa is formed in the folded leaf.

Kal. Mo.

I. raynes Apple foliage.

Bis. pl C XVIII. fig 6

~~*Tortrix algutana* Macfie~~ sp. nov.

*Tortrix gossypiana* Pack 335

mention'd in H. S. S. as  
injuring the tea & shoots of *Bermuda* grass  
as well as *Wheat* by the cutting out of the ears  
so as to render them worthless or to destroy  
the grainy ravel of them.  
See *Nobilia rusticana*.

*confusa* confused  
or mixed together

*Tortrix confusa* n.s. Robinson Tr A & S p. 274 pl. 5 fig 48.  
Hab. (Pa) (S)

? discus a disc or  
punctata dotted.

*Tortrix discopunctata*. Robinson Tr A & S p. 276 pl. 6 fig 51.  
*Calestathma discopunctata* Clem Proc Acad NS Phil 1860. p. 355.

Ins pl. 68  
fig 19 coll of  
Mr. Saunders  
Can.

Hab. Mass. W. Pa. (R) Can. (Saunders)  
Can.

flavida faded  
or weak

*Tortrix flaccidana* n.s. Robinson Tr A & S p. 277, pl. 6 fig 53.  
Hab. Texas. (R) LXXXII

*Tortrix flavedana* Robinson Tr A & S p. 278 pl. 6. fig 55.  
*Stalynta flavedana* Clem Proc Acad NS Phil 1860 p. 348.

Hab. NY Mass. Pa. (R)

fracta broken  
with a band or line

*Tortrix fractivittana* Robinson Tr A & S. 2 p. 265 pl. 1 fig 10 8<sup>a</sup>  
*Garella fractivittana* Clem P. E. S. R. 5. p. 186.

Hab. Va. Mass. (R)

Ins pl. 77  
fig 4 coll Englebrecht Phil

*Tortrix fumosa* n.s. Robinson Tr A & S. 2 p. 268. pl 4 fig 17.

Hab. Ohio (R)

*Tortrix f. fumiserrana* Clem P. E. S. R. 5. 184.  
Hab. va. Clem

*Tortrix furcatalana* Robinson Tr A & S 2 p. 270 pl. 4 fig 27 9  
*Schistis furcatalana*. Wall B.M.

Hab. Pa. (R)

*Tortrix furvana* n.s. Robinson Tr A & S. 2 p. 265. pl. 1 fig 9 2

Hab. W. Mass., Sauborn. (R)

fuscus brown or tawny  
near a line

*Tortrix fuscolineata* Robinson Tr A & S 2 p. 266. pl. 1 fig 11 Clem P. E. S. R. 5. p. 185.

Hab. Va. Mass. (Pack Robt)

*Tortrix vaccinivora* *nana* } Pack Mass. by Lep. 1870  
 yellow cranberry worm } Am. Nat. IV. 685 p. 6  
 Sab. No. Larva virens fol. Cranberry

*Tortrix vaccinivora* *nana* Pack. Agriculture of Mass. Ent. 15b, p. 241  
 Yellow cranberry worm. Pack.

Larva draws the leaves together with silken threads transforming  
 into a pupa within the mass. Larva eats the paronychium from  
 the upper surface of the leaves until every leaf or twig is injured.

desc. moth unicolor with yellow wings without any decided markings but mottled with  
 deep ochreous, expands  $\frac{1}{2}$  inch Pack

*Tortrix* ? Har cor 344

Sep. Lar. cuts off & winds up spirally portions of the leaves  
 of *Tilia americana* forming a long pendulous nest in which  
 the larva is concealed. Cocoon formed under a leaf Sep.

*Tortrix* *Linn* *flaccidana* Rob Illini. 102/14

*Tortrix gressa* n.s. Robinson Tr A E S 2 p. 268. pl 4 fig 18.

### Hab. Ohio (R)

*Tortrix gregitana* n.s. Robinson Tr A E S 2 p. 263 pl 4 fig 16.

Hab. N.Y.: Illin. Pa.

nearly allied to *resacea* but readily distinguished by the excavate costa of the primaries & the distinctness with which the veins are marked by lines of dark scales (R)

uncertain

*Tortrix incertana* Clem. P E S N 1865 p. 135. Robinson Tr A E S 2 p. 278 pl 6 fig 1 Red banded cranberry Tortrix Pack in Agriculture of Mass. Flat 68970 p. 34 578 552 sent to Mr Sauborn by Miss Gould of Walpole Mass. as Cranberry worm

Hab. Mass. N.Y. Pa. Ohio (R) Ohio Pa. Mass. Tex. Pack food place Cranberry

*Tortrix incerta* n.s. Robinson Tr A E S 2 p. 274 pl 5 fig 44

### Hab. N.Y. Pa.

*Tortrix humerosana* Robinson Tr A E S 2 p. 275 pl 6 fig 46. ♂  
*Amarobia humerosana* Clem. P E S N 1860 p. 352.

Hab. Pa. N.Y. Mass. Can. West. (R)

*Tortrix campanosana* n.s. Robinson Tr A E S p. 264 pl 1 fig 5 ♀

### Hab. W. Pa. Mass. (Sauborn)

lates broad

*Tortrix lata* n.s. Robinson Tr A E S p. 266 pl 1 fig 14 ♂

Widely elongated from pallidana by its greater size more obtuse apices & straight external margin of anterior wings R.

Hab. Illin. Pa. R.

*Tortrix laterana* n.s. Robinson Tr A E S p. 278 pl 6 fig 36 ♀

Hab. Pa. (R)

*Tortrix limata* n.s. Robinson Tr A E S p. 264 pl 1 fig 6 ♀

### Hab. Pa. (R)

*Tortrix malaleucana* Robinson Tr A E S p. 271 pl 4 fig 29.

*Sophodes malaleucus* Walk. G R Tr A E S 2 p. 83.

*Ptycholoma semipusca* Clem. P E S N 3. p 519. Pack quide 385.

Br. 85  
3 Laniarius coll.

In pl 94 pg 22 coll. of Mr

Sauborn Mass.

Hab. Pa. Maine (R) with another *Ptycholoma semipusca* p. 141. n. 46 fig. 3.

*Tortrix malivora* Lebaron. Ann Nat. V. 209  
4 mi. 1<sup>st</sup> Annual Rep. max size. Hlm. 20.  
prob destroyed by parasite *Haplopteron conclus*

*Tortrix malivora* x Bartsch 1<sup>st</sup> Rep. Novem. novi. Berlin 1871. p. 20  
x 100. Cylind. 1/2 in. long. Rule 4<sup>th</sup> Rep. p. 47.

feeds on the upper surface of leaf & curling the two rows  
upward, till the edges, nearly or quite meet & tying them  
together with a web.

B. forms in leaf bud with fine white silk  
3 broad, in a season. & destroys foliage of Apple. LeBaron

J. CIX.

Hlm. 20.

*Tortrix* Europe. Ratzeburg  
destroyed by *Torymus chalybaeus*. Europe  
Hym. Obs. p. 32

*Tortrix occulta* Europe.

destroyed by. *Chelonus similis* Hym  
1 10/28

→ *Tortrix* Europe. fm Ratzeburg.

*Tortrix* sp. *achymerus vulgarator* Europe  
destroyed by.

Hym

80/22

*xycoccus* cranberry

*Tortrix oxyccocana*. Pack guide 334 Pack in Agriculture of Mass. 1869. p. 239

See also p 241/17.

lute to dark spot

↓

Lar feeds on Cranberry, Sunborn, Mass

In body & brown from wing of pecular glistening gray mottled with reddish brown scales especially toward the outer edge. There are no well defined spots on body, wings grayish 1.15 mm

*Tortrix lutescana* Clem PESR. 5 p. 138 Robinson Tr A E.S. 2 p. 279 pl 6 fig 57 ♂

Hab. Mass. N.Y. Pa. N.C.

small or minute

↓  
*Tortrix minuta* ns. Robinson Tr A E.S. 2 p. 276. pl 6 fig 49.

Hab. Tex. (R)

grey black

↓  
*Tortrix nigridia* ns. Robinson Tr A E.S. 2 p. 268. pl 4 fig 26. ♀

Hab. Ohio Pa. Mass. (R)

galle to look pale  
or man

↓

*Tortrix pallorana* ns. Robinson Tr A E.S. 2 p. 266. pl 1 fig 13 ♂

Hab. Ohio Illin. (R)

galls. adis  
a marsh

↓

*Tortrix paludana* ns. Robinson Tr A E.S. 2 p. 275 pl 6 fig 45 ♂

Hab. Pa. N.Y. (R)

label. *Tortrix pullida*. fig 5 from Clemens sp. in Coll. of Ent. Soc. Phila.

Ins. pl 77 fig 34 coll. Ent. Soc. Phila.

parallel

↓

*Tortrix parallela* ns. Robinson Tr A E.S. 2 p. 267 pl 4 fig 17

Hab. N.Y. Pa. (R)

↓  
*Tortrix peritana* Robinson Tr A E.S. 2 p. 277 Pl. 6 fig 52.

*Smicrotes peritana* Clem. D. Acad. Nat. Sc. Phil. 1860 p. 356.

Ins. sp. much smaller than M. Robinson's.

Hab. N.Y. Pa. (R) London Can. - rare. Saunders

Ins. pl 83  
fig 34 coll. of Mr  
Saunders Can

↓  
*Tortrix pectinana*. ns. Robinson Tr A E.S. 2. p. 269. Pl 4 fig 21 ♂ 22.23 ♀

Hab. Can West. Ohio Illin. (R)

species very variable.

Ins. pl 44  
fig 143 coll. of Mr  
Saunders Can

juniper pure

↓  
*Tortrix puritana* Robinson Tr A E.S. 2 p. 271. Pl. 5 fig 30.

*Craesia?* *unifasciaria* Clem PESR. 3 p. 516.

↓ Ins. pl 89  
fig 6 coll. of  
Mr Saunders Can

Hab. Mass. Illin. (R) Can. (Saunders)

(138)

*Lorotaenia rosaceana* Har. Reed. Rept. Fruit growers Ass<sup>n</sup> Ontario Can 1870 p. 127  
Oblique banded Leaf roller.

Lar rolls up leaves into the form of hollow cylinders & feed on foliage when disturbed lets itself down by a silken thread. — when about to change loses the centre of the rolled up or twisted leaf with a web of fine <sup>hafting</sup> silk. —  
Pupa when about to change pushes itself out of the rolled up leaf by means of minute muscles across the veins of the Hudson part.

Remedy. Pick off & destroy all rolled up & twisted leaves, with contents. It has also been suggested to thoroughly dress the trees with a mixture consisting of one pound of whale oil soap, to 7 or 8 gallons of water a weak solution of carbolic acid is also recommended (Reed).

*Lorotaenia rosaceana*, Har. Saunders, Rep.  
Fruit growers Ass<sup>n</sup> Ontario 1871, 39  
Gooseberry currant plum Apple pear cherry  
Raspberry Strawberry,

hump a purple color

*Tortrix purpurana* Robinson Fr A E.S. 2. p 263 pl 1 fig 4.  
*Loxostenia purpurana* Clem Pr Ent Soc Phil 5 p. 186.

Ages oblique  
raiva band from the  
oblique bands on the forewings

*Loxostenia*, probably error of the prep. in the Catalogue of Mr  
Stephens by whom the genus was proposed; it has however been copied  
in several other works by other authors without correction or comment  
it should be *Loxostenia* see dent. Harr 481

Hab Pa. { *Tortrix reticulatana* Robinson Fr A E.S. 2. p. 272.  
*Crasia reticulatana* Clem Pr Acad Nat Sc Phil 1860 p. 353.  
*Teras subauratana* Walk. G.R. Fr A E.S. 2. 63

Hab N.Y. west Va. St.

*Tortrix Peliquina* Grote Fr A E.S. 2. p 121. { *Tortrix* 1<sup>st</sup> Rep. Mo. p 153 pl. 2 fig 3. 4.  
*Tortrix* 2<sup>nd</sup> Rep. Stevenson Fr A E.S. 2. p. 271 pl 4 fig 28. 9

Ind. Probably varieties of above on *Symporicarpus* Inspe 47  
*Tortrix* Lar in May draw large bunches of leaves of *Hickory* Gr F A E.S. 2. 121. Fig 9 & 10 coll of McRiley  
*Black Walnut* & Hickory together with a sedge web  
 fine together in this nest Food plants *Symporicarpus* (Snowberry)  
 Lar in May draw large bunches of leaves of *Hickory* v *Honocarpus*  
 Black Walnut. *Hickory* v *Honocarpus* Am Ent 2. 246  
 pupate under the bark through the leaves to the outside by means of rays of minute teeth which they have on their back. here they hang in great numbers by the tips of their abdomens until the moths escape

Parasite *Micromesistia*  
 Larval 2. 260

Torqued to twist  
 Ages oblique  
 raiva band.  
 Rosa Rose

*Tortrix rosacea* (Wall) Robinson Fr A E.S. 2. p 262 pl 1. fig 1-2 ♀ 3 ♂ (aff. H. P. O. G. Rep. 1856 p. 282)  
*Loxostenia* (Steph.) *rosacea* { Morris 50. Harris 481 Fish 1859 p. 28. Clem P. E. S. 5. p. 13 Packard  
*Loxostenia* Fish in Mo. Ag. Soc. 1856 Vol. 16 p. 346. 9. For Acad Nat Sc. Phil 1860 p. 367

Oblique banded rose moth (Har) Rosacean Tortrix (Fitch)

Larva May June draw the young leaves together at the end of the twigs & secreting itself in this shelter devours the foliage? Inspe 50  
 (In May to Sep. May & sometimes gnaws off rind of green apples) Fig 20 var MD  
 Pupa formed in the webbed up leaf or leaves. Curr 1. 249  
 Insect the early leaves in Maryland appear in a few days after the pupa is fully formed Inspe 67

♂ pale or yellowish green sometimes red or brownish, best seen above brownish often a darker stripe of green alongs side & a few small dots each yielding a short hair. Formed within its nest  
 I saw broad flat, cell shape, dull mountain or broken color, a dusky shade from numerous small wavy lines of dark brown crossing the fore wings on which are 3 slightly darker broad oblique bands on the base middle, greenish pink very very much on account food

Food Plants Apple Rose Peach Cherry & many forest fruit trees (as Cotton? Georgia)

1. La Nada (V.G.) Man. W. Pa Fla Texas (Robinson)

Hab. Canada common (Saunders)

Scaly lattices or rough *Tortrix sentuna* Robinson Fr A E.S. 2. p 277. Pl. 6 fig 54 ♀  
*Plutonota sentuna* Clem Pr Acad Nat Sc Phil 1860 p. 348.

Hab Mass. N.Y. Pa. (R)

*Tortrix sandaracina* N.S. Robinson Fr A E.S. p. 265. Pl. 1 fig 8.  
 Sandaracina Tortrix

Hab. Texas Fla. Mass. Pa. N.Y. (R)

*Tortrix* ?

Hab. U.S.

Inspe 1073  
 pg 138



sulphureous  
brimstone color

- Tortrix sulphureana* Robinson Fr A E.S. 2. p. 273. pl. 5 figs 37-40.  
*Croesia* ? *sulphureana* Clem. Pl. Acad. Nat. Sc. Phila. 1860 p. 353  
 " ? *sulforoana* Clem. P.E.S.P. 3. 576  
 " ? *verginianna* Clem. P.E.S.P. 3. 577  
 " ? *gallivorana* Clem. P.E.S.P. 3. 577
- Conchylia pyralina* Walk. G.R. Vol. A E.S. 2. 84
- Food Plant: *Boneset* (Riley, letter) Ins. no. 82 Pg. 16. coll. of Mr. Saunders, Can.

In "This is a very variable species & the intermediate forms are so gradual that it is not possible to limit the varieties" (Robinson)  
 Nup. sent down up in fossilized wood. Long. June 10. ? 478.

Hab. Mass. N.Y. Pa. N.J. Va. Ohio Illin. Tex. (Robinson) Md. Va. (H.G.) Can. (Saunders)

verper. of the evening

- Tortrix vesperana* Robinson Fr A E.S. p. 266. pl. 1. 1. 12.  
*Gorotaenia* " Clem. P.E.S.P. 5. p. 136.

Hab. Mass. Texas N.Y. Pa. (R)

violaceous violet color *Tortrix violacea* n.s. Robinson Fr A E.S. p. 271. pl. 5 fig. 31

Hab. N.L. Mass. (R)

- Tortrix capulata* n.s. Robinson Fr A E.S. p. 264 pl. 1, fig. 7 ♂

Hab. Illin. R.

*Tortrix* ?

I. found on Oak. Md. July  
in webs.

Hab. Md.

L. Plate 9  
Pg. 7. Md.  
Ins. pe 61  
Pg. 19. Md.

*Tortrix*.

larva made a blister like spot in leaf of  
*Paulownia imperialis* in which the pupa  
 was found. enclosed in a slight web. Md.

Ins. pl. 64  
fig. 9. Md. in  
Am. nat. No. 685  
I. pl. 73  
26. Md.

*Tortrix* V. sig. malacea Pack. in Agricul. of Mass. 1849, 7, 11 p. 289  
 Ann. nat. No. 685

Ins. July.

Hab. Maine Far fields on Cherry

Food plant Cherry. T38

*Nolana**Nolophana*

Zelleri

94/14 97/28,

*Nołofiana malana* Fisch  
Dralby lacma or Tortrix.

55/7

*Tortrix velutinana* (Walk.) GVK 265 288*Cacoecia* " "*Caeocia* Hill  
xeros vila ockia home or house*Tortrix transitorana* (Walk.) GVK 265 2.88*Cacoecia* " "

1855 Specimen  
1853 Specimen  
(1852 Specimen)

*malus* an apple tree

♂

*Tortrix malana*. Fitch Mor 50. Fitch T. p 473.?

*Brachytaenia malana* Fitch 3<sup>d</sup> Rep N.Y. Ag Soc. p 411. (Tineidae) Mor 1.2. Fitch in N.Y.S. 1854. A. G. L. 1853. (1852 Specimen)

many dotted Apple leaf worm. or (Apple Shoulder Striped Tortrix) Fitch & short banded Apple tree Tortrix *Tinea*

Eggs probably attached to a leaf

Larva (immature) Eat holes in the middle & notches in the sides of the leaves. without forming a web or fold in the leaf

*altana* maturity end of June 2<sup>d</sup> brood Aug 10<sup>th</sup>.

Hibernate in fallen leaf.

Insp. pl 94

Fig 14 Coll of M Saunders  
Mass.

Insp. pl 95

Fig 15 Coll of M  
Saunders Can

Lar pale green with numerous pale orange dots &  
5 multiple lines running longitudinally of body. l. 25.  
The back gray with a few very slender black lines  
marking the forewings O. ab. to 1. 15.

Food Plants Apple Cherry Elm Peach  
Poplar & Forest trees.

Cab W.H. (Fitch) Can (Saunders) Mass (Saunders)

triquetra a triangle *Tortrix triquetra* Fitch 2<sup>d</sup> Rep. p 254 Mor 50.

Triangular Spotted Tortrix. Fitch Tr N.Y.S. Ag Soc. 1855. vol 15. p. 476.

C. 50. v. outer base of fore wings occupied by a short black broad stripe curving white color with a large 3 sides

color. Found in Forest before the leaves put forth. & closely related to the above J.m.

Hub N.Y. (Fitch) color. White with a large 3 sided black spot on the middle of the outer margin of fore wings

Food plants prob Forest trees.

? *Tortrix* aff.

Insect taken amongst ferns Mass July

Cab Mass (Saunders)

Insp. pl 94  
Fig 16 coll of M Saunders  
Mass.

? *Tortrix*

Insect taken in amongst ferns. Mass July

Insp. pl 94  
Fig 17 coll of M Saunders  
Mass.

Cab Mass. (Saunders)

? *Tortrix* aff.

Insect taken July Md.

Cab Md. (Walsh)

Insp. pl 90  
Fig 21. Md. July

? *Tortrix* ?

Insect sent in a collection from Michigan

Cab Mich

Insp. pl 68  
Fig 28. Michigan

? *Tortrix*.

Cab Illin (Walsh)

Insp. pl 69  
Fig 2. coll of M Walsh  
Illin

? *Tortrix*

Cab Illin (Walsh)

Insp. pl 69  
Fig 3. coll of  
M Walsh Illin  
(P38)



*Aegos obliqua*  
*Taira striata*  
♂  
*Gossypium*  
cotton tree or shrub

*Lecithocera Gossypiana* Pack guide 336. T.G. So Ag Rep. 1854 p. 61? 1855 p. 85?  
♂ orix  
Cotton leaf roller.  
Larva rolls up the leaves of Cotton. L.P. Inspl. 19  
feeds upon the substance 19 21. SC  
Food plant Cotton!

Wat S.C.

See also *Anthonomus* <sup>140</sup>

*Lorotanaria fragariae* Pack guide 335.

see also *Cinchylophora*

Ins 80. of an inch in size with red fore wings darker on the outer half  
with a large triangular white spot near the middle of the costa  
the outer edge of the spot is hollowed out being very pale whitish buff

Larva early in June feeds the leaves. - of Wild Strawberry

Hab Maine. Pack

Food plant Wild Strawberry.

*Loxotoma* palpi rather longer than head, & differs from Tortrix in the male having a fold or flap of scales extending to nearly the tip of the fore wing while the outer edge is incised below the tip which is however produced upwards. The larvae of this genus feed in leaves the edges of which are drawn together by silken threads on the stems & seeds of plants. (Pack guide 335.)

*Loxotoma rosacea* na. See Tortrix p 138.

*Loxotoma cerasivora* na. See Tortrix p 138.

*Loxotoma practivittata* na. See Tortrix p 138.

*Loxotoma purpurana* na. See Tortrix p 138

*Loxotoma*

Tortrix

that of Stein.

Ias pl 69

fig 38.

Coll. of Mc Walter

Klein

Doris agass

*Ditula* (St) *blandana*. Clem PESI. 3 b 575.

Hautus fair or pleasant

99/2.  
Ins pl 69  
fig 14 coll. of Mc Saunders Can.

at Maine. (Clem) London Can. (Saunders)

" *Ditula anguis* Horv. European. Larva does great damage in England to the Apricot trees in early Spring by by the young moving together with threats so firmly that their growth is stopped & by devouring the young floral heads. Young West 9/16/88

*Anthonomus* (St) *nimbata* na Clem. PESI?

Ins pl 82

fig 15 coll. of M. Saunders  
Can.

Wat London Can. (Saunders)

*Oncithlesia pruinana* Hilt

Pack guide 333.

a banchetaria moth in Europe where it denudes the Plum (Pack)

Ias pl 65

fig 8 coll. of  
Mr. Sauborn

Lar yellowish green with a jet black head Prosthoracic shield

pupa formed late June

Food plant Plum Rose.

Bs. July

gained (also in U.S. by Mr. F. W. Putnam on the rose Pack)

Cab Man. Sauborn

*Anchylopera*.

*Anchylopera vaccinana* Pack guide 339 pl 8 fig 21.

Caterpillar of *Anchylopera* Pack

Cranberry or fine worms Rep't. Am. C. Fish to Cape Cod cranberry growers Ass'n  
from Farmar with register Mass. Sep 10. 1869.

Eggs remain on the plant all winter Hatch from 20 May to 1<sup>st</sup> June (Suppl 100)  
Larvae feed on the tender growing shoots drawing the leaves together (fig 7) from Pack  
with their webs for shelter & conceal them selves within. Spreading out the  
foliage, having reached their full size in about 2 weeks they spin up in a  
slight cocoon among the leaves or rubbish on the ground

Spupa state lasts 10 to 13 days

Ind numerous from 10<sup>th</sup> June to 1<sup>st</sup> July Eastham Mass. 2<sup>nd</sup> crop of 1869  
leave Aug or Sept. Stay eggs which remain on the plants all winter

Food plant Sol. Cranberry.

Another Tortricid Lar. Pack guide 340.

Cranberry. Fruit worm.

Larva thin & hairy a longer square prothoracic ring & a less hairy body  
than the above appear 1<sup>st</sup> Aug work all the month. the first signs of their presence  
are seen in the berries that are attached turns prematurely red most of them  
reach their full size before Sept. when fully grown they enter the ground &  
spin their cocoons within a few inches of the surface the cocoons are covered  
with grains of sand & are hardly distinguishable from small lumps of earth.  
They remain in the ground all winter. Pack

a similar Larva see pl 98 fig 11. from New Jersey.

see also *Lorotemnius* p. 139.

*Anchylopera fragariae* Walsh & Riley Riley 1<sup>st</sup> Rep. Mo. p. 446 pl 2 figs 26, 27.  
W. V. R. Can Ent 1. 89. fig. 1<sup>st</sup> Ent. Pack guide 340  
Strawberry leaf roller. Can Ent 1. 89. Can Ent. Aug. 1871 Can Ent

Lar crumples & eats the leaves feeding on their pulpy substance & causing  
them to appear very distorted 2 broods in a season 1<sup>st</sup> June 2<sup>nd</sup> Aug. Sept.  
pupa of first brood formed in the rolled up leaf 2<sup>nd</sup> brood Sept.  
passes the winter in the pupa state

Lab. Ent. Illin. Can. Can (Can Ent 1. 89) Food plant Strawberry

Ins pl 97  
fig 4 coll  
of Mr. Riley

optics spot wings back oculus an eye	<i>Spycnotata</i> (Steph.) ocellana	see <i>carpocapsa</i> No. 141
stirrers closed or covered nervous fold.	<i>Spycnoptycha</i> (Steph.) crispana	Clem PEST. 3 p. 186.
leaves golden yellow	<i>Spycnoptycha</i> (Steph.) flavocellana	Clem PEST. 3 p. 187
	Hab. 2a.	
	<i>Spycnoptycha?</i> varia (Maine Par)	Clem PEST. 3 p. 520.
	S. octocellata (ba)	Clem PEST. 3 p. 520.
	referred by Mr. Robinson to <i>Graepholaitha</i> (Pack guide 337.)	
dysodus acum. nepas. end.	<i>Anchylopera</i> Steph. Pr Acad Nat Sc Phil Aug 1860. p. 348. PEST. 3 p. 509.	
ocellus a little eye	Al o ocellana (Maine)	Clem PEST. 3. 511
medius the middle fascia a band	Al mediusciana (Maine)	Clem PEST. 3. 511
"	Al fasciata (Maine)	Clem PEST. 3. 511
purplellus beautiful	Al purplellana (ba)	Clem PEST. 3. 511
purple brown linea a line	Al fusco-lineata (ba)	Clem PEST. 3. 512
dubious	Al dubiana (ba)	Clem PEST. 3. 512
virginianum	Al virginiana (ba)	Clem PEST. 3. 512
Lamia a white or concealed	Al Lamiana (Maine)	Clem PEST. 3. 513
plagiasia a flag or whip	Al plagiata (Lao)	Clem PEST. 2. 417.
nubecula a small class	<i>Anchylopera</i> (Steph) nubeculana	Saunders Coll
		In pl. 83 fig. 15 coll of M. Saunders Can
	Hab London Can rare. (Saunders)	
	<i>Anchylopera dubiana</i> Clem <i>Graepholaitha fuscoferana</i> Walk GVR 2825 & 84	
Spuria a plant folium a leaf	<i>Anchylopera</i> <i>Spuria</i> <i>foliolana</i> Clem. Saunders Coll <i>Graepholaitha discolorana</i> Walk GVR 2825 & 84	Pack guide 338
		In pl. 83 fig. 15 coll of M. Saunders Can
	Hab London Can rare (Saunders)	Food plant Nine bark! <i>Spiraea opulifolia</i>
	(note this figure does not answer to Packards description)	
striatula striatula	<i>Anchylopera</i> <i>striatula</i> Clem <i>radula</i> <i>abiciaria</i> Walk GVR 2825 & 84	
	<i>Graepholaitha</i> <i>convergans</i> Walk	(110)

*Cydiocapsa pomonella* Walsh Ann Ent. 1. 160

Appears to prefer the Carolina red June in this  
to avoid the Maiden blush. & galena & Benoni

*Cydiocapsa pomonella*

when apples are stored near a library the larva  
seeking a place to transform occasionally gnaws unwholesome  
between the back & sleeves of books to make a desirable place in wh.  
to deposit its cocoon Dr H. Schmiedl in Ann Ent. Soc. Am. Vol 2 p 383  
books injures little from outside or within altho it is stated not to do so. Ann Ent. 1. 223

*Cydiocapsa pomonella*

Remedy Hay Bands, are more efficient than rays placed in the fork

*Cydiocapsa pomonella* Riley 5<sup>th</sup> Ann Rep. 22.

Description of Mers. spina worm trap.

parasites in Europe Phrygodesmus brevis. Hym.

Pachymenus vulneratae

" W. L. Chaetognathus pennsylvanicus Gouyer

" " L. Telesthes bilineatus Say Col

hidden larvae.

trunk is more efficient as it can be  
burned or scalded, the hay bands should

be in the 1<sup>st</sup> & 2<sup>nd</sup> bands.

in the h Corcyrocapa pomonella Riley 5<sup>th</sup> Rep. 1873. p 48

Remedies in order of merit 1 paper bandages  
straw wrapping paper 2 Rays. 3. the wire traps  
4. burning the tree  
in the latter best. 5. Hay bands. 4 favoring the tree  
new parasites. *Apanteles annulipes*. fig 8 & said  
the chrysopid *Microcentrus delicatulus* which attacks  
the caterpillar is also destroyed by a  
Lion snake probably a mormon. (194 Foster Bab.)  
Lion snake monthly for May 1872. & a soldier  
this much is reported as being noticed in Calif.

*Cydiocapsa pomonella*. Riley 3<sup>rd</sup> Rep. 163.

Remedy. Hay bands more effectual than rays placed in forks  
when wound around the trunk &c as they may be passed through a roller  
or scalded & used again. rays should be kept on from 1<sup>st</sup> May until the frost is  
double brooded in St Louis first brood make the motto of late June  
& July the second brood Sep to October spin cocoons - pass the winter  
in them as larva - change to pupae in Spring &  
also injures Peaches, plums, & plums in Canada

Riley states that an infallible index to distinguishing the sexes of this moth has

been pointed out by Mr Keller. in *Lepidopterologische Beobachtungen* 1870.  
which consists of a black pencil or tuft of hairs of considerable length on the

upper surface of the hind wings &c but omits to state which sex is thus distinguished

also injures Peaches Riley 3<sup>rd</sup> Rep.

in Canada

Igular when in peaches, lives near the stone so that the fruit is little  
injured for eating cooking drying or other purposes

*Lobesia botrana*

Remedy take up fallen leaves (Autumn) as no doubt the greater part of  
the second brood pass the winter in fallen leaves. also pick up  
destroy all fallen berries. Ann Ent. 1. 178. almost  
pick off & destroy all infected berries on vines as these invariably  
have a living larva in them this should be done as early as possible  
& as soon as the berries show symptoms of being infected - G.

*Cydiocapsa pomonella* Bethune Rep. Insect enemies of Ontario 1870.  
It tunnels out its excrescences in the shape of a fine powder through the holes in which is enclosed  
the fruit & it has reached the heart of the apple it cuts a cavity around the core  
destroying some of the seeds it then eats a tunnel through to the side of the apple  
it makes use of this opening for the discharge of its castings before & also to make its  
escape when fully grown

Remedy hay bands &c when apples are stored in barrels many of the larva  
will run up between the hoops & stay it is therefore also advisable to scald such  
barrels at soon as emptied

*Taproba*, sp.  
and a 14 year old female S.E.  
palpi moderate descending subulate terminal  
jaws exposed antennae simple wings subconvolute  
W. 108. Anterior elongate bearing w. sub. acute oscillated near  
the hind angle.

Bethune Rep. Trout growers Ass'n Ontario 1870-71 p 47  
Am End 1. 112 Fly 92. 322 For Enk 1. 34 5 2. 167  
Fitch to N.Y.S Ag Soc 1856 vol 16 p 347. Mollar 229.  
Laurie 484 Hatch 1<sup>st</sup> Rep. Illino p 28.  
Saunders Rep't Commerce leg & arts Ontario Can 1868.  
Riley 1<sup>st</sup> Rep Mo. p 63. Pack. guide 349  
He Har J.G. F.O.Ug Rep. 1854, 82.  
What is it 1860 p 316

Xapπος fruit  
Xapπη caterpillar  
ρούμιν an apple

*Carpocapsa* (Tr. West.) *romonella*  
*Pentheria* Tr. Mor. 50.

## Codling moth. Apple fruit

Eggs <sup>generally</sup> deposited singly June & July in the eye or blossom  
end of the fruit.

*Gar* in Summer complete their growth in three weeks they burrow from the eye to the interior of the fruit. Head upon the core & feeds \* after the fruit falls the larva leaves it & creeps into some sheltered place such as under bark to form its cocoon.

Pupa formed in a thin white silken case or cocoon in crevices or under bark &c the later broods remain as pupae all winter. "2 broods annually at Rock Island Glen" Walsh

2 or more (Md Va)

Insect "flies only at night" (Saunders Rep) common Canada (double brooded in  
Cana.)  
Very destructive (Saunders notes) spraying individuals appear all the year round { Food. fruit. Plum (Saunders, Can. & Co.)  
laying their eggs singly upon the flower end { Food Plant Apple peach -

*Cat N.Y. Pa. Va. Ma. (H)* { *Can. (Saunders)* { *Europe?* } *Mass. (Harris)* *W. Marin;*  
*destructive enemies to* *Screw bean Strombium capricornutum monosperma.* *Quince & Pear fruit Riley 64*  
*this country, England* &. *from California* *mid Crab & Pear Am. end 2-115.*

*Campe cassyia* Woerberana (European) live upon wood or beneath the bark of Plum trees" West 2.4.03  
where *Casuarina*

*tierdos* *lectus*. Agon  
Mourning or sorrow  
*vitis* the vine  
voro to eat

decided by the P.C. Keller of  
Seltz, Prussia, to be the *米市* Co.  
European *Sobesia boliviana*  
which injures grapes in  
Southern Europe (Am Ent 2,273).

Hab. Md. 6-8, '74 (Cub). Minn. ♀ Mrs. Ains. (South St. Paul) 4th second brood ab. 6. 9. '74. Mi. *Grafe*  
purple mount. Am. Ent. 2. 1773. Note "Hemimela" <sup>South St. Paul (Waldo)</sup> *Hedden* unite the genus *Pentaphis* with *Grapholita* under the latter.  
If the pupae in Washington were  
in excess of simple rolls up edges of leaf,  
as in cocoons of <sup>name & I believe Mr. C. J. Robinson of New York follows them in this respect?</sup> Riley note  
Am. Ent. 1. 177. states that the insect does not roll up the leaves feed upon the foliage.

*Pentstemon Faloreo*. Riley <sup>1st Spec. in</sup> <sup>Boutan</sup>  
*verbena* <sup>Verbenaceae</sup> <sup>Blm Cat 2 p. 205 fig.</sup> <sup>186</sup>  
bud molts <sup>8 377</sup>

Parasitic bird in a cluster of bushes of *Acacia*  
feast through lower calyx or flower visitors  
destroying them also feed on seeds of *Acacia*

ford plenty of blue flowers which are

Seeds of *Sporadidea*  
in seed pods of *Snaphdragon*  
*Antirrhinum*. (See Ent & Bot 2/371)

Penthima oculana sa Carpocapsa,  
our esp.

*Grapholitha oculana* in Pack 1869. 70.

*Pentina oculana* Pack. Agricultural of Mass. 1869. 70. p 235.  
apple bud moth

Lar may perforate half expanded leaf flower buds. when fully grown it consumes the leaves destroying the tree & does great damage to the fruit buds & flowers.

June in a loose delicate cocoon in the folded leaf  
one & first of July, (Pack)

Apple Pear Cherry (Pack)

*Grapholitha oculana* Reed in Rept. Fruit growers Ass'n. Ontario Can 1870. p. 128.  
Eye Spotted bud moth.

Lar. resides in a curled up blackened leaf, portions of which are drawn together so as to make a rude case the central part of which is lined with silk & is partial to blossoms & newly formed fruit. It also gnaws a hole into the top of the branch from which the bunch of blossoms issues & usually it always causes it to wither & die, sometimes it injures the leaves only.

of Pack generally injurious in Essex Co. Mass in 1869. on apple cherry & Pear

*Grapholitha oculana* Reed Rep. Fruit growers last 2 seasons very injurious to  
Eye Spotted bud moth. Ont. Ontario 1871. 26

leaf rolling moth. Selects young fruit  
buds for its food

C VIII / 22

le dull brownish color with small many

across the middle 2 small eye like spots on each the one near the tip being composed of 4 little black marks placed close together in a row on a light brown ground some marks being longer than the others the second eye spot is near the inner hind angle & is formed by 3 minute black spots arranged in a triangle in the middle of which there is sometimes a black dot.

*Micropteryx pomivorella* Pack in Agricul of Mass. 2d Ser. 1869-70. P. 239

Larva mines in the leaves of Apple. in sept & Oct. eating its way in the interior of the leaf feeding upon the parenchyma its burrow a mark by a wavy broad dark line on the leaf which dilates at the end into a granulate expansion somewhat ruffled out. in which the larva rests when fully fed & makes its exit through a slit at the end. when it may often be seen hanging suspended by a thread. Sometimes 3 or 5 larvae will mine a single leaf.

Pupa formed Oct. in a peculiar flattened orbicular silken cocoon about the 10th of an inch in diameter on the bark of branches & twigs in which it remains all winter.

Cocoon. Jan. appears resting on under side of leaves at 19. Jam.

Hab. Salem & Amherst; only placed here provisionally injurious foliage Apple

*Micropteryx pomivorella* Pack Mass Ag Rep 1870

- Ann Natl. W. 1884

mines w leaves of apple

oculus. an eye

*Carpocapsa oculana Errata* - Mor.  
*Splonesta* " Stob. Jr. 2. S. & G. Soc. 1856. Vol. 16. p. 344.  
*Penthina* Mor. 50 Har. 483.  
*Graophila* Pack. 1869. 70. Recd. in Cal. fruit growers Assn 1871. 128  
*Eye spotted Penthina or bud Moth* Har.

Larvae May & June fasten young buds together with setken threads as they are growing & feed upon the interior. Stob.

L. Ins. pl 108  
fig 22

*Lab. N.Y.* Larva pale brown, wormy about half an inch long }  
mouth shiny black head white } Am Ent 1. 151  
pupa formed in folded leaf }  
Man. Har. Ins. appears July. skin grey in color }

Food Plant Apple. from Stob. fig

*Cneophasia* ? (Curtis) *maculidorsana* Clem PESR 3. p. 87.  
Heat Maine (Clem).

Opposites sickly  
mutabilis variable

*Sericoris* (Fris.) *mutabilis*, Clem PESR 5. 135.  
*Exarterna* Clem Pr Acad Nat Sc 1860 p. 356.

Ins pl 77.  
fig 15 coll Ent Soc Phil

Lab. Pa.  
*Sericoris fasciata* Clem  
*Scaphula decolorata* Walk. G.R. To AES 2. 84

gratia grac

{ *Sericoris gratiana* ? of Clem Coll. Ent Soc Phil.  
{ *Sericoris gratiosana* Clem G.R. To AES 2. 84  
{ *Scaphula periferana* Walk. " " "

Ins pl 77.  
fig 6. 7. coll Ent Soc Phil

permundata very closely

*Sericoris permundata* Clem  
*Exarterna* " Clem.  
*Scaphula confusa* & *meanderana* Walk. G.R. To AES 2. 83

Ins pl 83.  
fig 24

Lab London C. & Co. (Saunders)

note "it may be that *S. fediana*, *S. concinnana* & *S. permundata* really constitute but one species." (Clem PESR 3. p. 136.)

fediana nearly dirty

*Sericoris fediana* Clem PESR 3. p. 135. (la) perhaps same as permundata above  
*Sericoris concinnana* Clem PESR 3. p. 134. (la) " " " "

coruscans to glister  
shiny

*Sericoris coruscans* Clem PESR 3. p. 134  
*Autethesia* ? " Clem Pr Acad Nat Sc Phil 1860. p. 346.

? instinct to untract

*Sericoris instuctana* Clem PESR 3. p. 135 (la)

versicolor changing color Clem PESR 3. p. 135 Clem Pr Acad Nat Sc Phil 1860 p. 357.

asciatus banded Clem ?

monotrys unadorned plain *Sericoris monotrysia* Clem  
*Cypracarsia clavana* Walk. G.R. To AES 2. 84

(141)



? deris  
forcum back  
signature marked

*Pachylochoma (Staph.) dorsesignata* (Clem)  
*Carpocapsa distinguenda* Walk. GVR to a E S p 84.

In p 77  
fig 2. Coll Ent Soc Phil (Clem)

Nov 97, a folio.  
Aopha frange  
semipunctous

*Pachylochoma (Staph.) semipunctana* Clem PESR 3 p. 519.  
*Lophoderes maladecanus*. Walk.

Hab. N.Y.

In p 46  
fig 3. coll of Mr Meadley  
N.Y.

some mislabel see *Tortrix maladecana* which is said to be a syn. A 138 Ad 44572

Nov 97 a bolt or bar  
gall inability  
reparas miniculum (agari)

ment

*Peronea gallicolana* H. See Texas.

Texas. (Festuca) brewsteriana ns Robinson Tr A E S. 2 p. 283 pl 7 fig 73 q  
Brewster  
Hab. N.Y. (R)

ment  
prop name

Texas. celtina ns. Robinson Tr A E S. 2 p. 283 pl 7 fig 74

V

Lab N.Y. Mass. Santon (R)

object to head down

*Peara distictolana* ns. Robinson Tr A E S 2 p. 283 pl 7 fig 71 q  
16 ab Pa. (R)

new golden eye  
vitta a band or filled

Texas glauvivittata Robinson Tr A E S 2 p. 280, pl 7 fig 60, 61.  
Peronia " Clem PESR 3 p. 516

Hab. Mass. N.Y. (R)

gall color to whitish

*Peara* <sup>gold</sup> *gutticulana* Robinson Tr A E S 2 p. 283 pl 7 fig 72 q  
*Peronia* *gutticulana* Clem PESR 3 p. 516.

In p 77  
fig 9. coll of Ent  
See Penn

Incl. Marsh of Rock Island Illin buds 13 Specimens from Gall  
*Salicis strobiloides* & *S brassicoides* from Aug 27 to Sep 11<sup>th</sup>

Hab. Mass. Illin (R)

~~Peronae~~ ~~var~~

*Peara Hartmanni* Robinson Tr A E S 2 p. 280 pl 7 fig 63.  
var *divaricata* Hilt  
Hab Europe Pa Mass (R)

(141)



more van imply

*Texas maculilobata* n.s. Robinson Tr A.E.S. 2 p. 281 pl 7 fig 66  
Cabo May 22d. (R)

macula spot  
downum rock

*Texas maculilobata* Robinson Tr A.E.S. 2 p. 281 pl 7 fig 64  
Cnephasia? maculilobata Clem Proc Natl Acad Sci. 1860 p. 316.

note This & the above *T. imana* may be varieties of the European *T. hastiana* Linn (seabraha <sup>Hub</sup>)

Hab Pa. Maine. (R)

wing black  
lance low

*Texas nigrolinea* n.s. Robinson Tr A.E.S. 2 p. 281 pl 7 fig 67  
Hab Can. west (R)

perspicua clear  
or plain

*Texas perspicua* n.s. Robinson Tr A.E.S. 2 p. 280 pl 7 fig 62  
Hab Pa. (R)

placida planata

*Texas placidana* n.s. Robinson Tr A.E.S. 2 p. 282 pl 7 fig 68  
Hab Pa. (R)

semi half ring  
annulus ring

*Texas semianula* n.s. Robinson Tr A.E.S. 2 p. 282 pl 7 fig 70 ♀  
Hab Pa. (R)

tri thre'  
sign mark or sign

*Texas trisignata* n.s. Robinson Tr A.E.S. 2. p 282 pl 7 fig 69 ♀  
Hab Mex. (R)

uburnum planata

*Texas uburnana* Robinson Tr A.E.S. 2 p. 281 pl 7 fig 66  
Penaeus uburnana Clem Proc Acad Natl Sc. 1860 p. 347.

Hab Pa. (R)

*Texas nigrolinea* Robinson 8/19. Cay

*Argyrolepis quercifoliae* Detz. Cat. 23  
Sp. N. S. Collected 86.

*Cataclysta*? *annulalis* Walk. see next page

0372. ♀. 16 feet. white & amber.  
 1. pale dull yellow on each segment of abdomen.  
 2. rows of minute teeth with points curving  
 backward.  
 3. spotty black fore wings with reflections of lemon  
 yellow, blue & purple. their outer margins with  
 oblique triangular white areas placed at equal  
 distances apart. 4. neck and head yellowish  
 with a dark blue patch at base half with a blue  
 & gray reflection fringe. breast white face yellow  
 breast cream yellow. hind breast & base of abdomen  
 heavy white. 3d. yellowish segments of abdomen  
 coast black.

w. 60.

75 & grass green. Attaches to the leaves.  
A pale straw body which wings glossy white, fore wings  
marked with numerous small rusty spots running together  
in many transverse bands, with shade near the more vascular.

Fitch Jr N.Y. Ag Soc. 1858 vol 18. p. 826.

Argyrotopea silvella  
Lettis scale,  
queens oak  
folium leaf

*Argyrotopea* (Stephens) *Guercifoliaana* Fitch 5th Rep. 46. Mor. 55.

Oak leaf Tortrix

"larva crevices in a thin cob web covering which it  
constructs over the upper surface of a leaf low arched

and hairy draw in its sides somewhat to get into a concave shape & consumes only the end of  
the leaf transversely. Pupa state passed in the same situation. No. for part July,

match pale straw color with its body & wings very glossy white (rich).

Argyrotopea guerricella Fitch.

Hab. N.Y.

Croesus.  
Fonscia ? Peach

*Croesia* (Hub.) *praevenana* Fitch, Jr N.Y. Ag Soc. vol 16. p. 337.

Peach Tortrix Fitch

I rather slender pale green with which  
mark along each side of back has  
pale dull yellowish  
fore wing rusty yellow variegated with  
black the basal third much paler leaving  
a large irregular spot mostly of center  
margin in brownish white  
struck power of red line { Hab. N.Y. (Fitch)  
edge which is divided by  
the veins crossing it  
into about 4 spots & bordered  
on anterior side by a coarse black band. Fitch

Larva ties the young leaves together in may secreting  
itself within this shelter feeds upon the foliage

Food plant Peach.

♀ *Croesia* Hub. *virginiana* Cem.

Lab. Md

♂ Croesia.

Hab Illino. (Walch)

Ins. pl 70

Fig. 7 coll of Mr Walsh Illino

exterior as saddle cloth  
Popos bearing  
Carya history.

*Ephydriophora* (Apionchil) *caryana* Fitch Jr N.Y. Ag Soc. vol 16. p. 459. Mor. 50.

Hickory Shuck Moth. Fitch.

Larva mines into the shucks which envelope the fruit causing  
the nuts to be abortive & many to fall from the tree.

Ins. pl 98  
Fig. 3. Md Aug.

Hab. N.Y. (Fitch) Md. H.G.

Food plant Hickory & Pigmy Hickory Md. & Aug.

It note Ins. pl 98 fig. 3. does the same injury in Md. As upon a comparison with Fitch's  
somewhat vague description it is very clearly allies to Fitch's species, if not perfectly identical with it.

very likely an oyster

*Conchylis* (Brutschke) *agassizii* ns. Jr AEd 2 p. 284. pl 8 fig 5.

Agassiz Conchylis  
Ins. May 17.

Robinson

Hab. Waco Co. Texas.

Ins. pl 96  
Fig. 3. Chickasaw Nation

Ins. sent amongst a collection from Chickasaw  
Nation by Dr. Palmer & prob. var. of above.

Hab. Chickasaw nation. Palmer

unguis an angle

*Conchylis angulatana*. N.S. Robinson Jr AEd. 2 p. 286. pl 8 fig 51;

Hab. Ga West Pa N.

142

*Cochylis bilobana* Europa

forms gall on stem of *Asternesia*

the galls are formed by the irritating gnawings of the larva after it is hatched  
from any poisonous fluid injected with the egg by the ovipositor of  
the ♀ Sley 2d Rep. 136.

Conchylis argenti-purcatana Gr

83/3.

bis twice  
macula spot

*Conchylis bimaculana* n.s. Robinson Tr. U. S. Z. p. 285 pl. 8 fig. 78.  
Hab. Texas. (R)

*Conchylis bimaculana* n.s. Robinson Tr. U. S. Z. p. 285 pl. 8 fig. 80.  
Hab. Pa. (R)

*Conchylis dorsimaculana* n.s. Robinson Tr. U. S. Z. p. 285 pl. 8 fig. 79.  
*Loxopera angustata* Clem. Proc. Acad. Nat. Sc. Phil. p. 354, 1860

Hab. Pa. (R)

*Conchylis interrupte fasciata* n.s. Robinson Tr. U. S. Z. p. 287 pl. 8 fig. 85.  
Hab. Pa.

*Conchylis labeculana* n.s. Robinson Tr. U. S. Z. p. 287 pl. 8 fig. 82.  
Hab. Pa. (R)

species pretty evenly  
spotted or dotted *Conchylis lepidana* n.s. Robinson Tr. U. S. Z. p. 287 pl. 8 fig. 84.  
*Argyrolepis lepidana* Clem. Proc. Acad. Nat. Sc. Phil. 1860 p. 355.

Hab. Pa. (R.)

promptly or actively *Conchylis promplana* n.s. Robinson Tr. U. S. Z. p. 286 pl. 8 fig. 80.

Hab. Texas. Pa. (R)

*Conchylis redingsiana* n.s. Robinson Tr. U. S. Z. p. 285 pl. 8 fig. 77 ♂  
Closely *Conchylis*  
Hab. Colorado Ter. R.

?  
Inv. sent by Mr. Saunders Can.  
Hab. Can. *Samoa* Port Stanley rare

afinis. Ins pl. 88  
fig. 3. coll of McNamee Can

*Conchylis quinquemaculana* n.s. Robinson Tr. U. S. Z. p. 284 pl. 8 fig. 76.

Hab. Pa. (R) Ma ♀ chickasaw nation (Palmer)

Ins pl. 87  
fig. 2. Ind.

Ins pl. 80  
fig. 9. Wnd.

? var. Ins pl. 95  
fig. 12 Chickasaw nation  
J. Palmer

? *Kanekia* ? *Catocala*.

*Catocala annulalis* Walk. 89/8

Ins pl. 81  
fig. 7. Ma.



edges oblique  
tegaz. ends  
angustus narrow

*Loxopera angustana* Clem. see *Conchylis doverimaculana* Clem.

fuscus, a color paid  
strigae a furrow or row

*Loxopera fuscostrigiana* Clem PESP 5. 417  
Hab. Labrador. (Clem.)

Exotics, yellow  
Eyes moth.

above to grow white or whiten  
manus hand

*Xanthoscelis (Steph.) albicomana* Clem PESP 5. 137.

See also, *Tortrix albicomana* P 138.

Hab. Fla. (Clem) Illin (Walsh)

? Ins pl 68  
fig 11. Walsh coll Illin

? Ins pl 76  
fig 8. coll Ent Soc Phil



*Hedya* sweet gale. *Hedya* (Hub.) *succulenta* Clem PESTR. 3 p. 515. *Hedya* <sup>W.H.</sup> *leca* nat sc. Phil Aug 1860. 357  
Salix willow

Larva mines a cabbage like gall on *Salix* Ins pl. 69  
fig. 31. color 44 Marsh

Hab. (Hab.) (Walt.) *Calix longifolia*. Willow <sup>June</sup>

a variety mines a pine like gall on *Salix cordata* <sup>var.</sup>

Salix willow  
color to in habitat

*Hedya* *succulenta* Clem PESTR. 3 p. 515.

Larva mines a rose like gall which Mr. Marsh calls *Salidæ rhomboides*, on a low upland Willow Ins 69  
Several being found in each gall" *Calix humilis* fig. 32. coll of Mr. Wm. Wm.

Hab. (Hab.) (Walt.)

*Hedya* *Cussoniana* ns. Clem PESTR. 3 p. 514  
Cretaceous *Hedya*  
Hab. (Va.) (Clem.)

spots to decolorize  
take away }  
*Hedya* *cladotrichia* ns. Clem PESTR. 3 p. 518.  
Hab. Va. (Clem.)

Signatus marked  
signs

*Hedya* *signatana* ns. Clem PESTR. 3 p. 514

Hab. (Va.) (Clem.)

*Hedya* *spotiana* ns. Clem PESTR. 3 p. 518.  
Hab. Va. (Clem.)  
Stigmoneota? xx/4. See also Simocles

Spots to disappear  
take away }  
*Stigmoneota* (*Spirin.*) *interstinctana* Clem PESTR. 5. p. 133. (*Stigmoneota* Clem. *Praec.* Nat Sc. Phil 1860 p. 356.  
Lachnophampha *scutana* Walt. C. & R. 1852-84  
Indistinctly divided or separated Ins. with a curved blotch or lunule on the dorsal  
or? streaked margin of the fore wings - the blotch bearing  
one streak. Ins pl. 68  
fig. 6. coll of Mr. Marsh  
Hab.

Hab. Va. (Clem.) (Walt.)

*Stigmoneota* *twistigana* Clem PESTR. 5. p. 133.

Hab. Va. (Clem.) Blotch bearing 3 lines on streaks.

? deru *Stigmoneota* (*Spirin.*) *tawiana* ss. Clem PESTR. 5. p. 134. *Habenaria* Clem. Tr. Acad. Nat Sc. Phil 1860 p. 357

Similans resembles

*Malonota* *similans* Clem. Pack. Guido 237.

Nervos narrow  
per. small  
brevi short ornate ornamental HAB. Va. (Clem.)

*Lytornis* (Clem.) *breviorialana* Clem PESTR. 5. 140

HAB. Va. (Clem.)

? deru *Smicromyces* costa with a slight fold at the base in ♂. Clem 18514. 5. 140.

*Smicromyces* *verescana* Clem PESTR. 5. 140.

? perius skipper expert *Smicromyces peritana* see *Tortrix peritana*

*Euryptychia salicana* Clem PESP 5 p161. Proc Ent 4/11  
 Ins. based from gall on goldenrod by Walsh &  
 misnamed salicana (Willow) by a mistake of  
 Clemens & considered by Walsh as a galls or mycelium  
 on the true gall making insect.

Gall on Goldenrod. misnamed (Sal)  
 caused by *Euryptychia salicana*

(as)  
*Grapholita caryae*. Schumir In Am Ent Soc 2. 341,

Larva found Aug Sept living in nut of *Carya amara* &  
 Bitternut Hickory where they destroy the interior & cause it  
 to fall to the ground.  
 Ins appears the latter part of Nov. it then one hibernates  
 in this state & continues to live in the spring until sometime  
 in June, when the nut is sufficiently developed to receive the  
 egg (Schum)

Destroys fruit of Hickory Bitternut.  
*Carya amara*.

*Cryptolechia Schlagerii* Zeller 5/3. Md 8/18/13

*Cryptolechia Schlagerella* 8/18/13.

Portmidae sp. allied to Fitch In N Y Ag Soc. vol 17. 1857. 736 (Pine moths of tree)

*Retinia buoliana*. (European.)

Larva bores bark outer surface of wood at one of the uppermost whorls  
 of the twigs causing a profuse flow of resinous sap, which mingled with  
 the castings of the worm concretes forming a covering which hides & protects  
 the depredator the leading shoot is rarely frequently destroyed

Hynes Pine leading branches. Jr.

? down  
membrane broken off  
succinatus

*Mixodesia intermixtana* Clem. p E.S. 1. S. p 140.  
Hab Pa (Clem)

oroppos worn  
mulus cloudy

*Siderea ? subtilana* Clem. p E.S. 1. S. p 140. Pack. guide 383.  
Hab Pa (Clem)

epus broad  
truxy foli  
salt mucus

*Eurypterychia* Clem. fore wings with a broad fold extending to the middle of costa Clem PESI  
*Grapholitina* }  
*Eurypterychia* } Clem.  $\frac{1}{2}$  E.S. 4. S. p. 140. (*Gelochia gallosciadaginum* Riley) 157 140  
This probably an intruder on the willow gall moth & only 2 sp. of moth found Riley  
It was bred from a Willow Gall (Clem) error really in gall on willow gall (Riley) 157 140.

Hab. Illin. W. Dak.  
This insect was described in 1865 by Dr. Clemens as *saliciana* under a false impression (Clem.) (Solledaga) Lep. 156  
(referred by Mr. Robinson to *grapholitina* (Pack. guide 383) that it was rare from a willow gall. Riley)

xanthous most beautiful  
spur sign or mark.

*Callimosima* (Clem) scintillans Clem. p E.S. 5. p 141. Pack. guide 388  
*Callimosima*. Clem. PESI. 142 error.

Scintillans shinies

Hab Pa (Clem)

? down  
primarily handsome  
or beautiful

*Siplocama*, *forornosana* Clem. PESI. S. p 141 under *Callimosima* *Siplocama*  
*Siplocama formosana* Pack. guide 388.  
*Siplocama* error Clem. PESI. 5. 142.

London  
Hab Canada rare (Saunders)

Grapholita crenata see *Capricornia*.

Grapholita costimaculana (Clem)? grapholita. Clem. PESI. S. p 142.  
Grapholita " G.R. S. p 142. S. p 142.  
Balotis binotulana Walk. G.R. S. p 142. S. p 142.  
Hab Can (Saunders)  
note " It is probable that *Siplocama* & *Callimosima* may be identical  
or nearly so with the European genus *Grapholita*! (Clem. PESI. S. p. 142) it Callimosima

*Grapholita formosana* (Clem)

Hab Canada (Some mistake here on pl. 82 fig 22 which is also G.C.)

Ins pl. 82  
Fig 22. coll of M. Saunders  
Can.

fuscatus bands

*Grapholita fuscifrons* Clem.?

Ins pl. 89  
Fig 17. coll of M. Saunders  
Can.

? down  
pernicious very cleanly

variolosa. a girl  
Cunatae Saunders  
altinata

oxia shade. giles prima  
eggs white. eggs few  
luridus Saunders

zephtios hidden

*Exartema permundana* see *Sericinus permundana* 10 147

*Pediasia* <sup>prosticta</sup> *alternans* Walk.  
Hab Can. Saunders.

*Scapularis* <sup>prosticta</sup> *cactifluana* & *stremonana* Walk.  
Cryptolectica schlagenkella. Saunders coll.  
Hab Can

Ins pl. 82  
Fig 13 coll of M. Saunders  
Can. 143

*Hepnessaria* Haw. distinguished by their flat broad body & horizontally carried wings - their palps are recurved & they feed in the larva state on umbelliferae. Thus the pupa state in the stalks of these plants. West 2. 407.

Sam Yponomeutidae Steph (Pyralites Labr) from Westwood 2. 110

Tin Jun *	{ <i>Hepnessaria</i> Haw <i>Solivora</i> Latr	{ <i>Cochleophania</i> Curtis <i>Capillaria</i> Haw	Curtis	{ <i>Pancalia</i> S Steph <i>Acropora</i> Latr
Tin Mor *	{ <i>Anacampsis</i> Curt. <i>Recurvaria</i> Haw	{ <i>Nasystomia</i> Curtis <i>Druonaria</i> Haw	Curtis	{ <i>Echmeia</i> Ochs <i>Callisto</i> Steph
✓ put <i>Machimia</i> here also not in West	{ <i>Laverna</i> Curt. <i>Anacampsis</i> Steph	{ <i>Oxyptile</i> 1 Haw <i>Chionophanaria</i> Curtis	Haw	{ <i>Camptagia</i> Steph <i>Tinea</i> Haw
	<i>Lophonotus</i> Steph	{ <i>Chionophilus</i> Haw <i>Druonaria</i> Haw	Haw	{ <i>Astyagis</i> Steph <i>Bathra</i> Ochs
	{ <i>Acria</i> Steph <i>Tinea</i> Donov	{ <i>Acria</i> Haw <i>Chionophane</i> Haw	Haw	{ <i>Chrysocoryn</i> Curtis
	{ <i>Chelaria</i> Haw. <i>Hypatima</i> Hilb	{ <i>Semioscopis</i> Hilb <i>Epichorbia</i> St. Cal	Haw	{ <i>Metalosetia</i> Steph <i>Damophila</i> Curtis
	{ <i>Cleodora</i> Steph	{ <i>Leucosyphnia</i> (H. Clem. Tm) <i>Melanoclesia</i> St. Cal	Haw	{ <i>Proctectaria</i> Haw <i>Tinea</i> Hilb
	{ <i>Recurvaria</i> Haw	{ <i>Yponomeutis</i> (Steph.) Haw <i>Emonea</i> Haw	Haw	{ <i>Aphelesetia</i> Steph <i>Proctectaria</i> Hilb
	{ <i>Ucuncisia</i> Hilb	{ <i>Idea</i> Steph <i>Yponomeuta</i> St. Cal	Haw	{ <i>Datia</i> Steph <i>Recurvaria</i> Haw
	{ <i>Macrochila</i> Steph <i>Aiptola</i> Curt.	{ <i>Edessaea</i> Curtis <i>Emonea</i> Steph	Haw	
	{ <i>Aiptola</i> Steph	{ <i>Argyrosetia</i> Steph <i>Enecostoma</i> Steph	Haw	
Clem Jun *	{ <i>Alabonia</i> Hilb <i>Enecostoma</i> St. Cal	{ <i>Argyresthia</i> Steph <i>Argyromyza</i> (Steph.) Curtis	Haw	
	{ <i>Olcophora</i> Latr <i>Sarcoceras</i> Haw	{ <i>Lyonetia</i> (Steph.) Haw <i>Hericea</i> Steph	Haw	
Clem Jun *	{ <i>Adela</i> Latr <i>Capillaria</i> Haw	{ <i>Tinea</i> Steph <i>Microstria</i> Steph	Haw	
	{ <i>Oporinia</i> Hilb <i>Uvurinia</i> Haw	{ <i>Glyptalectryx</i> Hilb <i>Ecocephala</i> St. Cal	Haw	

Note all marked \* are classed under the Tineidae of Mor & Clem.  
but placed here under the Yponomeutidae of West.

Note although all the genera marked \* are classed under the Tineidae of Clem & Mor. It has been thought advisable to keep them separate for the present, under the Yponomeutidae of Stephani. (See Westwood 2. 110.) (which family has been entirely omitted by Dr. Morris in his catalogue) & if it is thought proper they can afterwards be drafted amongst the Tineidae as no reliable list of American Tineidae has yet been published this arrangement is only for present use & for convenience of reference to names & in the index.

"*Yponomeutidae* larval parts long slender max parts rarely thin slightly developed." Mett 2-105

*Yponomeutidae* Stephens from Westwood's Classification 2-110  
*Depressaria* (Haw.) *ontariella* Beltram Can Ent vol 2 no 1 p 19.  
*Ontaria depressaria*

Larva fed. on the flowers & pods of the Parsnip July Fishkill Lns. N.Y.

Spinning a web in the umbel of the flower bearing umbel into the hollow stem at the axil of last leaf making a round hole L.P. pl 16 fig 11 N.Y.

Pupa found in the hollow stalk the larva having previously eaten a hole in the stem near a joint almost all the seed on the plant was destroyed by this larva. Fishkill Lns N.Y.

"put a stale leaf about a foot long & the perfect insect begins to appear. Can Can" (Beltram)

"Ins Cybomata may often be seen sitting round rooms even in the depth of winter" Beltram  
 This larva is common in Canada on the wild parsnip Mr. Gaumer found it also abundant at the other extremity of Canada below Riviere du Loup on the St. Lawrence

Food plant Parsnip. Celery

Hab N.Y. (79) Can (Gaumer)

seen to be absent in England. (79) (gen. *Depressaria* Fam. Gelechiidae Group *Viciae* Beltram Canad 3-1)

*Depressaria pulchripennella* Wm. Clem P.E.S.P. 2 p 421.

? Ins pl 69 fig 1. coll of W. Walsh Stein

Hab Illin. (Marsh), Va (Clem)

is this rightly named?

Want 2 *Depressaria cinnicostella* Clem. ? Clem P.E.S.P. 2 p 421  
 Depressaria clausella Walk. G.R. to A.S.S. 2-84

? Ins pl 69 fig 1. coll of W. Walsh Stein

Hab Va Clem is this rightly named.

" " 10. 10 E.C.P. 9 h 124 Fauchie Guide 369.  
*Depressaria robinella* Pack guide p. 349. pl 8. fig 14.

Robinia Locust

Larva thick bodied with a black head. It is green with the cervical shield also green. It devours the leaves drawing them together by threads. It also eats the flower buds. abundant last web in June. Pupa July 8th. Imago in about 2 weeks

Ins pl 100 fig 5. fm Pack.

Ins pl 48 fig 8 Md

Food plant Locust

The larvae are at dredging about more or less

*Depressaria depressella*. L. live in a web in the umbels of carrots. & destroy seeds.

Hellebore powder & perhaps lime & soot dusted over the umbels would drive them away. Curtis 424

*Depressaria pastinacella* live upon parsnips & destroy flowers & seeds

is believed to attack Cranberries & Sunborn May  
 up to very long recurved apical joint Sunborn May  
 79 28 coll of W. Sunborn Mass

Larva Buckerworts  
 144 p 5 a fold.

*Anacamptis (G. artis) robinella* Tisch. see *Lithacolla* p. 146.

*Anacamptis sarcifolia* Harris 1693 Mor. see *Limca* p. 148

Sarcio to mend  
 or repair clothes

Lavona West. 2-407  
 Specie " Curtis 1866  
 Pack moth } Larvae feed on Woolen drats & clothing of the materials of which  
 Harris } they construct a moveable case in which the pupa is also formed

Hab May (Har.) see *Limca* p. 148 Food Woolen fabrics. wool.

(144)

"*Adela* (<sup>(Europe)</sup>) *campniæ*, say flying species known under the name of Japan moths or long horned the former name alluding to their reddish metallic wings & the latter to the great length of their antennæ. They frequent woods & fly in traps like gnats over the bushes in the sunshines. The larva of an European sp. *Adela de geerella* inhabits a flattened case formed of bits of leaves. Its pupa is very remarkable by having the greatly elongated antennæ coiled up in a roll at the extremity of the abdomen." West 2.407

*Tineia punctata*, or *padella*. Experiment tried by Mr Habenstreit of Munich in which the caterpillars were made to spin upon a paper moist suspended from the ceiling of a room. — a pattern was formed by applying air to three positions which were not intended to be covered. Mr Habenstreit succeeded in manufacturing an air balloon over one or two shawls & a complete dress with sleeves. without seam. — Intellectual observer. V. 352.

Note. Ins. resemble, somewhat *in situ* & ornamentation. *Hypannema multipunctella*

*Hypannema padella* Europe Larvae have 8 ventral & two anal feet & are of a slate color with black dots they reside in large sacculæ under a common web on various fruit trees & especially laburnum hedges feed upon the foliage of Apple &c the webs are known as Burnie nests from the black spots on a white ground West 2.406 Mr Habenstreit of Munich by compelling these insects to spin their webs on paper has been enabled to obtain a sufficient quantity of silk to manufacture into various articles West 2.406

*Anacampsis cereella* see *Gelechia* p. 156.

Ptentus vent or ventral  
Ptentus leaf  
III

?dorsi *Machimia tenerifolia* Clem? Ins pl 69  
fig 4 coll of M.  
W. A. Shantz  
*Depressaria confertella* Walk. G.R. To AES 2. 84  
Hab. Illin. Walk

ERROS. single  
ORTHOPOD. bone.

*Eucostoma* ? *Steph* *Pachardella* Clem NESP. 2 P. 126  
Packard's eucostoma

Argytes buddei

*Adela*, Lat. Knob *Ridingsella* Clem Pack. guide 348 Ins pl 57.  
fig 5. Walk.

Hab. Md (D.G.) "adela Larva makes a flat can shape on the leaves  
of various low plants such as wood anemone, *Veronica*" Pack quite 348  
*Adela* Lat. "halp is labial slender, recurved, antennae greatly elongated" ♂ thickened in ♀ eyes very  
large & approximately ♂ body slender, head pale wings metallic. Hab. D. HI. Eng.

*Adela*. *Ridingsella* Clem NESP. 2. 426. desc. Hab Pa.

?dorsi *Amesychia* (Steph) *Spaniscidiella* Clem NESP. 2 p. 130.

Spanier speckled on scattered  
celium frange or cyclath "according to Mr Stainton the larvae of this genus seem  
Exclusively attached to plants of the borage family on which  
they feed." Ins pl 76  
fig 20. coll of  
Ent Soc Phil

Hab. Va. first food plants Borage Clem

VITROPELVUS  
to undivided

*Yponomeuta* (Löder) *multipunctella* Clem Po. Acad nat Sc Phil 1860 p. 8 Mem N. 52.

*Yponomeuta*, (Lat) Knob Ins pl 40.

? *Yponomeuta* *ordinatus*, Thunb. - G.R. To AES 2. 84

*Eminea* (Haus) Knob. Larva gregarious  
Pupa enclosed in cocoon (Pack)

Ins pl 57  
fig 45 coll of W. Saunders  
Can.

Hab. Kansas (Crocker) Canada Saunders

"An allied European species deposits its eggs to the number of 20 or 30 in a mass in  
June & July, the caterpillars feed for a time & enclose themselves in a joint web  
where they pass the winter in Spring. May & June, they feed on the foliage, still  
living in the web. the pupa is formed in the common web but in separate cocoons  
Köller p 227 where it is figured states that the Larvae of *Yponomeuta hasella* or  
small orange moth injures apple trees enclosing some of the leaves with an  
unwieldy web. & eat off one leaf after another within it."

*Yponomeuta multipunctella* Clem. Pack quite 348

(145)

*Orygromyces quercefolella* Schk 1858. 827

Mr. know what fore wings pale golden yellow with a black dot on their tips a white stripe of their outer edge at base & 4 triangular silvery white spots along the outer 4-5 larger upon the inner margin 0.30.  
Lar. White with a cinnamon brown stripe along its middle - tips of jaws brown. - Sparsely hairy. ~~resembling~~ <sup>resembling</sup> like a Raupenwels Larva  
the segments of the thorax being much broader than the rest  
3 anterior pair of legs. 3 pair of very small prolegs on 3.4.5  
narrowed abdominal rings

## Homoneuridae

*Orygromyces pseudococcella* Tsch 1856.

" of cells I can between skin of leaf" fore wings frequently  
bright red or yellow base marked with oblique short  
irregular reddish brown body when at rest have wings raised  
from a sort of dense mass resembling the other species  
Slender (about leaf minor) (Cochetum 12. path 2. with 2nd &  
3rd pair subtectrum, and very nearly as long as wings  
wh as narrow very subtriangular rounded anterior  
with metallic marks.

I mimic a white sister like that on *Loranth*.  
I slender not flattened very deeply constricted at seduct &  
extending to strong black 0.24. 3 fore purple golden yellow with 4 white bands on outer edge  
each with a large black dot on their tip  
marked with white

*Orygromyces monostrella* Tsch 1858

under but not meet Loranth  
Morris's leaf minor under but not meet Loranth  
I similar in size & marks but the entire inner half of fore wings  
is black 0.25

*Orygromyces ulicella* Tsch 1858.

Under leaf minor. under but not meet Loranth  
I resembles pseudococcella but paler color the fore wings being  
golden gray with 5 white spots show few outer edge side. The black  
dot replaced by a short black streak

*Orygromyces bilobactinella* Tsch 1858.

young July 4 Aug.  
body hair white & all under side silk head silvery white, fore  
wings of a dark orange gold crossed by 4 equivalent silvery  
broad bands

*Argyromyces quercicola* Fitch Jr NY S Ag Soc. Vol 18 p 58 p. 827

271.

Cak leaf Miner

Larva forms a whitish blister like spot half an inch long showing upon both sides of the leaves. Spots upon the pine needles  
are now white, fore wing pure golden yellow with a black dot on their tips  
a white stripe in their outer edge at base with 4 triangular areas where spots  
along the veins & two larger ones upon the inner margin. Width 0.30.

Food plant White Oak

Hab NY (Fitch)

diplopodes silver  
few to seek. again?  
quercicola albellus  
(? prisc. a sp.)

*Argyromyces quercicola* Fitch 1858, 828. Mar 51. Fitch to My Ag Soc. Vol 18 p 829 1858  
White Oak Leaf Miner Larva forms a white blister like spot on the under side of leaf broad oval in form  
Hab NY (Fitch) It half to 3/4 in length 4/5 in. fore wing anterior half orange white, posterior half  
pale golden yellow

Food plant White Oak

*Argyromyces luteo-saccella* ♀ Whittlella Fitch 1858, 828.

& Morrisella Fitch to NY S Ag Soc. 1858, vol 18, p 838  
mentioned by Fitch under the head of Locust. (Food)  
but he likewise says. "I do not know the kind of leaves in which they are reared"  
Fitch to NY S Ag Soc 1858, 838

*Argyromyces pseudacacia* Fitch 1858. Mar 51. see Lethacolletis p. 146.

Synon. prop name  
speculum a muror

*Lyonetia* (Hub) speculata Clem 1st S P. 1. p 134

"The larvae of this genus are represented to make long tortuous  
galleries or tracks in leaves & to quit the leaf when full fed." Clem

Box greatly much  
taller than a man's hand or  
bush

Is this not Linna? *Batalia flavonotella*. Clem Stanton N E S P. 2. 132. (is this not Linna frontella.  
Perhaps *Batalia basilaris* Zeller Vol X, p 230, is identical with this (Stanton)  
*Linnae entomologica*)

matured garden of  
morning

Xylops gold  
zorus helmet,  
cynthia red. or red sea.

*Batalia matutella* Clem N E S P. 2. 132 Stanton

perhaps identical with *B. impositella* Zeller *Linnae entomologica* Vol X p 241. In a worse sp. no? (JF)

*Chrysocroce. erythrilella* Clem Stanton N E S P. 2. 132.

Synon. prop name *Lyonetia saccatella*. Pack Guide 355 pl 8. fig 18

succus. a seed on bag

which it draws about with it.  
Larva makes a case instead of living in a mine in leaves of Apple  
this case is made of the skin of the leaf & is of a flattened oval shape  
open at each end strong enough for the larva to turn around in  
it becomes fully grown by the last of Aug & in Oct the cocoons have  
been found attached to the bark of the tree where they may also be seen  
through the winter & in the spring. Seaborn in Pack guide 355

Inst pl 100 Inst pl 94

Fig 6. from Pack. Fig 3 from  
coll of M. Sauborn  
Max

Hab Mus.

## Sam. Lithacollectidae of Mor Cat. P 53.

Lithacolletis Zeller

Tischeria Zeller

Phyllocoptes Zeller

Leucanthura Clem.

Bucculatrix Zeller

Antispila H. Sch.

Aspidiscia Clem.

In Morris Catalogue the above named genera  
are separated from the Lincociae (Mor.) & placed  
in a distinct family, Lithacollectidae

Lithacolletis fitchella Clem. Pack. Guide 363

Angyromyces (Stephens) quercifoliella Fitch 1858 82<sup>o</sup> Mor 57.

Oak leaf minor Fitch

Lar form a white blister like spot 0.50 in length  
Showing both sides of the leaf I missed in it.  
No ordinary white with pale reddish suffusion here and there

Slightly larger with a brown hue Pack.

Food plants, Oak White

Tum Lithocolltidæ Mor p. 53.

"Microlepidopterous Larvae notes on a few species the imagos of which are probably undiscerned" with food plants, & the months in which they should be sought for by the collector with directions how to rear them in confinement. Clem. PESP 1 p. 75.

*Lithocolltis*. "Larvae mine the leaves of trees shrubs or low plants separating either the upper or lower surface & feeding on the inner substance of the leaf. The larva never quite the mine & changes in it to a pupa. Some species make no cocoon others only a slight one & others make one of grains of excrement woven together with silk. Many of the tissues of the fall brood remain in the pupa state all winter & appear as imagos in the spring & some of the imagos that appear late in the autumn seem to hibernate during the winter in the imago state. The spring brood of larvae produce imagos in the summer" &c. Clem PESP 1, p. 53.

*Lithocolltis*

Larva mines in the leaf of willow in October (Scammon)

Insect from the collection of Mr Scammon Mass.

Inv. pl. 94  
Fig. H coll. of  
Mr Scammon  
Mass

Hab. Mass.

note. This insect may prove to be the same as *L. salicifoliella* (Clem) mentioned below.

*Lithocolltis basistrigella* Clem. Scammon PESP 2 p. 150 allied to European *L. Sabiceella* (St.)

Salix salicis of the willow *Lithocolltis salicifoliella* Clem. PESP 1, p. 81. Pack. grise 853  
Column leaf

Lar late June or early July mines in leaf of yellow willow  
The mine is on the under side of the leaf usually near the base  
along the edge. (Clem)

Food Plant Yellow Willow.

Juglans walnut. *Lithocolltis Juglandella* Clem. PESP 1 p. 81. Pack. grise 853.

Walnut

none listed

7. p. 4

22.  
7. 3rd Time  
Locust

7146

## Fam. Lithacollectidae of Mor Cat. p 53.

*Lithacollectis* Zeller*Tischeria* Zeller*Phyllocoptis* Zeller*Leucanthiva* Clem*Bucculatrix* Zeller*Antispila* H. Sch.*Astodusica* Clem.

In Morris Catalogue the above named genera  
are separated from the *Dineidae* (Mor) & placed  
in a distinct family, *Lithacollectidae*

*Lithoclellis geminatella* Pack guide 353 pl 8. fig 15.geminatus  
bouclés

Larvae mine in leaves of Pear & Apple trees from Aug mid July to first week in Oct usually the larva draws two leaves together or folds one up & as it eats its way along the surface of the leaf leaves its excrement filling up the space behind thus making blotches otherwise disfiguring the leaves; pupa formed in the mine. Ins appears first Aug 19<sup>th</sup> Pack (Apple & Pear  
Food plant)

Ins pl 100  
fig 9 fm Packcurvus a curve  
line line*Lithoclellis curvilineatella* Pack guide 354 pl 8. fig 16.Ins pl 100  
fig 10 fm Pack

cocoon long & slender a little blunt at each end & white with slight longitudinal ridges, it may be found attached to the bark on the branches of the apple tree in May & also in autumn winter Pack. food plant Apple

nidificans  
making a nest*Lithoclellis nidificansella* Pack guide p. 354 pl 8 fig 19

so named from the singular way in which the cocoon is suspended in a loop like a hanging nest by silken cords the larva feeds on Pear

Food plant Pear. Ins pl 100  
fig 3 fm Pack

"Droppomomyza autumnalis (European) the cocoon is also ingeniously suspended by threads from each end like a hammock" Pack 2. 408

Tum Lithocolltidæ Mor p 63.

"Microlepidopterous larva notes on a few species the images of which are probably undescribed" with food plants & the months in which they should be sought for by the collector with directions how to rear them in confinement. Clem. PESP 1 p 70.

*Lithocelis*. "Larvae mine the leaves of trees shrubs or low plants separating either the upper or lower cuticle & feeding on the inner substance of the leaf. The larva never quits the mine & changes in it to a pupa. Some species make no cocoon others only a slight one & others make one of gossamer & excrement woven together with silk. Many of the species of the fall brood remain in the pupa state all winter & appear as imagoes in the spring & some of the imagoes that appear late in the autumn seem to hibernate during the winter in the imago state. The spring brood of larvae produce imagoes in the summer" &c Clem PESP 1, 81. Larvae 14 foed. Mor. p. 53.

Lithocelis

Larva mines in the leaf of willow in October (Saunders)  
Insect from the collection of Mr. Saunders Man.

In sc. 44  
Fig. 4 coll. of  
Mr. Saunders  
Man

Hab. Man.

Note. This insect may prove to be the same as *L. salicifolia* (Clem) mentioned below.

*Lithocelis basistriatella* Clem. Saunders PESP 2 p. 180 allies to European *L. Sabiceella* (St.)

Salix species of the willow *Lithocelis salicifolia* Clem. PESP 1, p. 81. Pack guide 853 column leaf

Lar. late June or early July mines in leaf of yellow willow  
The mine is on the under side of the leaf usually near the base  
I along the edge. (Clem)

Food plant Yellow willow

Juglans walnut *Lithocelis Juglandella* Clem. PESP. 1 p 81. Pack. guide 853.

Larva early June & latter part of July to middle of August make an elongated rather wide tract on the upper surface of the leaves of Black Walnut without folding the leaf. (Clem) Black Walnut

*Anacampsis rodens* S. 88-89

Host tree

L form white blisters like spots on under side of leaf of Juglans  
L. elliptica pale greenish blisters appearing posteriorly with a darker species streak along midrib  
S. blackish brown oval half turning yellow when ripe with an orange band before the middle above a greyish white band or line above  
grey spot on the middle half way from this to the top a white spot on the outer & a pale rose red one opposite it.

June

La Clem 3<sup>rd</sup> Acad Nat Sc Phil 1869. 319.  
nos 529 sec. vol. 8

*sacacella* Fitch 5th Rep N 1853 p 336, Mor. 57.

Fitch

Lar. mines in leaf of Locust & on white loco spots that serve as much more shelter in form than *Anacampsis* requires. (Fitch) A portion of these probably Food plant Locust

remain undamaged all winter dying in their burrows in the dead foliage

Hab. N. S. Pa. (Clem) Some part come out in the autumn & hibernate in crevices under the loose scale of bark (Fitch)

? deno

? *Parectopa* (Clem) *robiniella* Clem. Pr Acad nat Sc. Phil 1868 p 209. 81 PESP 7 p. 4  
?? *Anacampsis robinella* Fitch 5th Rep N 1853 p 334. Mor. 57. See next

Larva mines the leaf of the Locust making a blotch mine on the upper surface of the leaf with a number of lateral galleries running out from it on each side (Clem)

In sc. 22.

Fig. 7. End June

Locust

Hab. Md. (T.C.) Pa (Clem.)

Locust.

7146

*Phyllocoptes?* Teller?

70/23. Thalik

*Tischeria (Teller) quercicella* Clem. N.E.S.P. 2 p. 13. desc.

*gasterella*  
a grove of oaks

Larva makes a white blotch mine on the upper surface of the leaves of Oak. Sep & Oct. about the middle of the mine is a spot which bears any other part circular. More opaque on this spot when full fed the larva spins a circular whitish cocoon.

Food plant Oak

*Tischeria citrinipennella* Clem. N.E.S.P. 2 130 intermediate between European & *Margarinea* sp.

### *Bucculatrix thuriella* Pack

Cocoon smooth <sup>smooth</sup> <sup>Var not related</sup> but forms in company, found on Cedar (not Red).  
Pack 1<sup>st</sup> Rep. on unknown inst. May 24

*Bucculatrix prunifoliae* Clem (fig Riley)  
Apple leaf bucculatrix.

Lar feeds externally on leaf. Sept by a web where cocoon ribbon placed in Oct. in companies longitudinally on bark. Ins. appears the following season the cocoon remaining on the bark all winter. L. 10 pale & a true leg nearly half as much in length dark green with the joints so swollen as to look like a series of beads tied small.

Riley Lanced oil. Kerosene oil used with cam. or alkaloi. J. Pl. CXVII. fig 7.

8 Pack 1<sup>st</sup> Rep. May 24

*Succacaria prunifoliae* L. 8<sup>th</sup> Est. 1. sp.

Hab. man externally Lar feeds on leaves of Apple tree Sept. cocoon long white slender. Today be found at any time of the year on branches of apple tree cocoon elongated very white & ribbed. In the Spring.

B *Bucculatrix thuriella* Pack. 1<sup>st</sup> May Rep. 25.

Cedar tined

& as & cocoons found on a cedar tree in abundance but larvae unknown.

Hab. Manu → parasite a chalcid? found Cedar allied to Eulophus?

forwards. nearly white cross in middle by alternating brown & white stripes crossing from front edge of wing on the end of wing till the middle of the outer edge is a conspicuous black spot like the eye in a peacock's feather.

*Lithocelitis* ? Clem PESR 2. 18. vol 18  
*Uncampsis robinella* Fitch 5th Rep N.Y. Agric Soc 1858 A 834. Mor 31

area backwards  
May 15 winding  
so following

Larvae form blister like spots feeding upon the parenchyma  
between the two outer skins. "mine on the under surface  
I tent like" states.

note "if Dr Fitch has been led into no error it is a new species & the specific name must be changed" I do not think there can be 2 species of *Lithocelitis* that mine the leaf of the Locust & the mines of *Parectopa robinella* just mentioned are in an irregular line & situated on the upper surface of the leaf" (Clem). It is probably *Parectopa robinella* (Clem)

parasite Microgaster Robiniae  
Locust leaf mines parasite. Fitch Jr N.Y. Ag Soc 1858, p. 836

Fischer prop nunc Fischeria (Zeller) Saliidae onifolia Clem Pr Acad nat Sc Phil 1859. 326. Mor 53  
 Solanum gordonii (Pursh) Hab Pa Clem

vigorous that comes  
of a vine

*Phyllocoenista* (Zeller) *viticinella* Clem Pr Acad nat Sc Phil 1859. 327 Mor 54

Smedendron. July tree *Phyllocoenista* *Lirioidendronella*. Clem PESR 2. 18. (described)

? dens

" Larva <sup>latter part of July Pa</sup> mines the small terminal leaves of the branches of July tree making a broad linear line on the under surface of the leaf leaving a brownish tan line. This mine is much contorted & very long. (Clem) Food Plant July tree so as often if not always to take up the entire under surface of the leaf winding over it so as to detach nearly all the under epidermis."

Hab Pa (Clem)

*Phyllocoenista* *viticinella* Clem Stanton. PESR 2. 130. closely allied to *P. sajica* & *saligna* Europe

*Leucanthrix* Clem *amphicarpaeafoliella* Clem Pr Acad Nat Sc Phil 1859. 328 Mor 54  
 Hab Pa.

Corona a crown

*Bucculatrix* ? (Zeller) ? *coronatella* Clem Pr Acad Nat Sc. Phil 1860. 12. Mor 55

Hab Pa

9 buccula  
that which covers mouth  
which? <sup>which</sup>  
infl w/ 3 thick bands

*Bucculatrix* (Zeller) *trifasciella* Clem Pr Acad Nat Sc Phil 1860 p 211; Clem PESR 5. 147  
as. *Nepitiola saginella* Larva described Clem PESR 1. 85. (Clem PESR 5. 146. Ins. described)

Cocoon elongated ribbed externally dk grey on leaf of Chestnut.  
Insect latter part of July (Pa)

Larva mines leaves of Oak early Oct & chestnut early in Aug (Pa)  
makes a transverse moderately broad serpentine track gradually increasing in breadth from the beginning to the end where it is very slightly enlarged with a central fissure line. in Chestnut leaves the mine is often made along the edge of one of the coarse pointed teeth running up to the point where the enlarged portion is turned inward. Clem PESR 1 p. 85

Hab Pa. (Clem) mine foliage Chestnut. Clem PESR 5. 146.

See also *Nepitiola saginella* which includes sp. p. 152 done by *Nepitiola saginella* p. 152

avil against  
water & rock on cliff

*Antispila* (Pa)

(146)



axis opposite against  
anthers a rock.

*Mysa* *Lipula*. Sour gum  
folium leaf.

*Urticaria* (H. Sch.) *myrsinifolia* & *cornifolia* Clem. Proc Acad Natl. Phil 1860.11 Mor. 2.  
Larvae white or whitish with black dorsal & ventral spots  
The surface of the *Urticaria* require a damp  
situation. Zim. PESF. I. p. 82)

Hab Pa (Clem.)

*Aspidicella* <sup>(new)</sup> Larvae make a small blatch mina between the cuticles of the leaves  
when they have arrived at maturity weave a cocoon between the cuticles & cutting  
out of them a small oval disk thus leaving a hole in the mina place of the  
same & shape of the cocoon Larvae of a reddish brown. & the disk is always fixed  
by a button of silk to some object in the neighborhood of the food plant. T. Clem. PESF. 1. p. 82

2000 ft. pleatrous  
scuti. agan.  
? folds. shields

Splendor repudience  
fore. to bear

*Aspidicella* *splendens* *verella* Clem. Pr Acad Nat Sc. Phil 1860.12 Mor. 54

Hab Pa (Clem.)

*Ostrya* Iron wood  
folium leaf

*Aspidicella* *ostryacefolia* Clem. PESF. I. p. 82.

Larvae on leaves of Iron wood late Sep & early Oct.

Hab Pa (clem.)

Food plant. Iron wood

*Salix salicis*  
willow

*Aspidicella* *salicella* Clem. PESF. I. p. 82.

Larva after cutting <sup>out</sup> its disk lets itself down by a thread  
to the surface of the ground from beginning to  
middle July (By this time Larva may be taken on the leaves  
of yellow willow the mina is very small & the excised  
portion with which the disk is formed takes up the Food plant  
greater portion of it (Clem.) Yellow willow

Sam Sineidae Stephens Westwood  
Syn P. 113]

{	Acrobria Hub	{	Chaetobius Steph
Galleria. West	Cerostoma Curtis	Cerostoma	Curtis
Galleria. Fab.	Cypholophus Fab	Cypholophus	Fab
Slytria. Latr	{	Euplectamus Latr	
Crambus. Fab	Phycis	Phycis	Ochs
Senta. Steph	Acrelophia	Acrelophia	Curtis
Melanica. Curtis	{	Sinica	West 149
Eudoreca. Curtis	Scoparia Haw	{	(now Sinica here of Latr)
Scoparia. Haw	Physcia Curtis 146	Sepidocera Steph.	Haw
Physcia. Fab.	Physcia Fab.	Physolophus	Haw
Homoeosoma Curtis	{	{	
Physcia Haw	Incurvaria	Incurvaria	Haw 162
Pronupteryx Steph	Sinica	Sinica	Haw
Nomophilida Hub	Amara ocellata	Amara ocellata	Steph.
Scopula Curtis	{	Sinica	Haw.
Oncocera Stephens	Gamponima Steph	Gamponima	Steph.
Crambus. Fab	Eurocephala Curtis	Eurocephala	Curtis
Araxes —	Sinopia	Sinopia	Steph
Palparia Haw	Eusiphonapteryx Steph	Eusiphonapteryx	Steph
Crambus	{	Acentropus	Curtis
Palparia	Haw	Acentropus	Steph
Chelo —	{	Acentropus	"
Palparia	Leuck	Lauvele	"
Herpestes	Haw	{	
Platella Schm	Alucita Sab	Alucita	Sab
Hypolophus Hub	Haw	Gracilaria Zeller	
Hypolophus	{	Gracilaria	Zeller
Hypolophus	Haw	{	not in Westwood but here
Harpalyx Hub	Schön		
Plutella			

As no reliable list or classification of the Sineidae (or Sineina) of the U.S. has been published. No attempt at the classification or arrangement has been attempted in this list but the different genera are — put down as they stand in Westwood's classification.

Morris' Catalogue, & the treatise of McCleay in the Proceedings of the Entomological Society of Philadelphia, & the list is made merely for the purpose of collecting them all together & to facilitate the references as to name, food or habits in the index — at the beginning of the work.

add also.

Anthonomia. Staunton P.E.S.P. 2. 188 p. 160.

Callicinia?

St. P.E.S.P. 2. 130.

Euplectamus

Euplectamus

Still on it.

add also.

## Sineidae

Solenobia

Sinica

Acroleia (Yponomeutae West.)

Hyponephele (Ypon West.)

Hyponephele (Ypon West.)

Glechis

Coleophora

Balachista

Elachista

Lithocelidæ (Lithocelidæ n. sp.)

Lyonetia (Yponomeutæ)

Neptunella

Arranged. Pack guide

Morris' Cat 50  
Sineidae

*	Tetrulophia Zeller
*	Aphrobia Hub
*	Myclois Hub
*	Pempelia Hub
Ypon	Anacampsis Curtis
*	Cerostoma Latr
Ypon	Argyromyzæ Steph
—	Sinica Sab
Ypon	Amynoria Clem
*	Anaphora Clem
—	Incurvaria Haw
*	Brachytænia Schrank
*	Platilla Schrank
Ypon	Hyponephele Zeller
*	Eudarcia Clem
*	Chetoneulus Steph su
*	Argyresthia Hub
—	Gracilaria Zeller
*	Ovix Heischke 157
*	Cosmopteryx His
*	Bedellia Stainton
*	Cosmotes Clem
*	Coleophora Zeller
*	Diachlorisina Clem

Clemens P.E.S.P. 1 p. 75  
Microlepidopterous Larvae  
food &c + article on rearing

—	Coleophora 152
*	Neptunella 153
—	Ornis
*	Catastega 154

Clemens P.E.S.P. 1. p.

*	Opostega 154
*	Yuccatapha
*	Solenobia
—	Nepticula
Ypon	Synœcæ
*	Sinaga
*	Tephroma
*	Mysoidea

Clemens P.E.S.P. 1. 147.

—	Bedellia
*	Neptunella
Clem	P.E.S.P. 2 p. 4.
*	Solenobia 155
*	Brenthia
*	Coleophora
*	Marmara
*	Glyptophryx
*	Gracilaria
*	Glechisina 158
*	Diachlorisina 157

Clem. P.E.S.P. 2. 151.

Sineina

—	Glechisina
*	Coloceras
*	Yponophorus
Ypon	Yponomeutæ
*	Bractyloma
*	Pigmæa
*	Sinica
—	Group Homœotæ
*	Chaudieles
Observations on American	Sineina Staunton P.E.S.P.
Clem P.E.S.P. 2. 1415.	

Sinina of Labrador

- Sinica
- Ornis
- Incurvaria
- Glechisina

—	Batachædæ
—	Gracilaria
*	Nepticula
—	Incurvaria

add also.

Ypon	Leptostaria
*	Hamatocia 159
*	Cyclophæsis
*	Elachista
Ypon	Adela
—	Coleophora
*	Dasyptera
*	Wolffia
*	Ypsolophus
*	Amyna
*	Elachista

continued

Anthonomia. Staunton P.E.S.P. 2. 188 p. 160.

Callicinia?

St. P.E.S.P. 2. 130.

Euplectamus

Euplectamus

Still on it.

add also.

Anthonomia. Staunton P.E.S.P. 2. 188 p. 160.

Callicinia?

St. P.E.S.P. 2. 130.

Euplectamus

Euplectamus

Still on it.

add also.

Anthonomia. Staunton P.E.S.P. 2. 188 p. 160.

Callicinia?

St. P.E.S.P. 2. 130.

Euplectamus

Euplectamus

Still on it.



## Sam Tinocidae Stephens Westwood

Syn P. 113

{ Achroia Hub	Chaetobius Steph
{ Galleria Thun	Cerostoma Curtis
Pupal Mor Galleria Tab.	Glyptophus Tab
{ Silyphus Latr	{ Euplectamus Latr
{ Crambus Tab	{ Physis Ochs
{ Senta Steph	Aerobacia Curtis
{ Melanae Curtis	Tinica West 149
{ Endocera Curtis	{ Sphaerocera Steph.
{ Scoparia Haw	{ Physoceras Tab
{ Physica Haw	Incurvaria Haw 182
Bronopteryx Steph	Tinica Hub
{ Nonomphila Hub	Amara setosa Steph
{ Scopula Curtis	Tinica Haw
{ Oncocera Stephens	Lampronia Steph
{ Crambus Tab	Eucephala Curtis
{ Araxes Steph	Lampronia Steph
{ Palparia Haw	Eustilapteryx Steph
but pupal	{ Acentropus Curtis
but pupal	{ Acentruia Steph
{ Chilo	Laevic
{ Palparia Haw	Gracilaria Haw
{ Herpestes Hub	Alucita Tab
{ Plutella Schönl	Gracilaria Zeller
{ Hypsophora Hub	not in westwood but here
{ Hypsophorus Tab	
{ Harpalus Schönl	
{ Platella	

As no reliable  
Tinocidae (published  
or arranged at has  
but the different genera  
as they  
Morris  
in the  
of Phil.  
for the  
of to  
food or  
of the

{ Chaetobius Steph
{ Cerostoma Curtis
Glyptophus Tab
{ Euplectamus Latr
{ Physis Ochs
Aerobacia Curtis
Tinica West 149
{ Sphaerocera Steph.
{ Physoceras Tab
Incurvaria Haw 182
Tinica Hub
Amara setosa Steph
Tinica Haw
Lampronia Steph
Eucephala Curtis
Lampronia Steph
Eustilapteryx Steph
{ Acentropus Curtis
{ Acentruia Steph
Laevic
Gracilaria Haw
Alucita Tab
Gracilaria Zeller
not in westwood but here

Morris  
Tinidae

## Tetralval

* Aphelinus
* Muscidae
* Pemphigidae
Upon Anad.
* Ceras
Upon Anag.
< Tinidae
* Hydroleidae
* Amygdalidae
* Amaurobiidae
< Tinidae
* Braconidae
* Platynotidae
Upon Hydroleidae
* Eriococcidae
* Chalcidae
* Argyresthia Hub
< Gracilaria Zeller
* Conix Freischtr. 161
* Cosmopteryx Haw
* Bedellia Stainton
* Cosmotes Clem
* Coleophora Zeller
* Diachorisia Clem

Clem. P. E. S. P. 2. h.

* Strobilia 155
* Brentus
< Coleophora
* Mammara
* Glyptopheryx
< Gracilaria
* Gelechia 157
* Sisicera 157

Clem. P. E. S. P. 2. h.

Tinina

\* Coleophora

\* Gelechia 157

\* Colococera 158

*C. cantuariellas* L. o. 30. head neck & 2d segment black the rest hairy & slender whitish line in the middle  
In. fore wings dk brown on the inner side & outer half white often layered with tawny yellowish & sprinkled with minute black dots below at rest this white covering a broad stripe along each side under side of wings mostly. Sprigs blackish at base, the rest dull yellow on each side of this. in other respects resemble

## C. tenuis Haw. Tinocidae.

merita a sp. *Chalcidiellus trimaculatus* T. 233.Single spotted palmer worm.  
Food not mentioned insect food with rear houses in trees.

3. glossy ash gray fore wings pale on inner basal portion black at tips & outer margin towards tips broad blackish streak through the middle, which scales forming a V with the angle towards tip of wings this band covers with a somewhat irregular pale yellow spot & smaller spot beyond it almost oval vs. by large silver white spiral tongue & quite small oval spike white & covered two an anterior half the length of abdomen.

## Chalcidiellus trimaculatus

nearly hairy belly spotted palmer worm.

2. foot not much but occurs in woods in leafminers  
3. both wings relatively broader & tips of anterior wings more obtuse & cut off obliquely so that the apex forms an obtuse angle - ash gray often streaked with veins with pale fringes & black dots above & irregular transverse wavy lines on the apical edge & a row of black dots placed at intervals between end of wings. Old ones become yellowish apex ash gray along each side a row of glossy whitish spots.

## Chalcidiellus ventrellus

T. 234.

marked *Thorn* may be found p. 144.5.  
these marked are mentioned before & those marked \* are put in this list in the same order as they now stand.

Observations on American  
Tinocidae. Clem. P. E. S. P. 2. h.

Gelechia 157

Colococera 158

Sisicera 157

Strobilia 155

Brentus

Coleophora

Mammara

Glyptopheryx

Gelechia 157

Elachista 157

Cecidomyia 157

Adela

Caryocera

Milicia

Hypolophus

Anisochia

Elachista

continued

## Tinocidae

Solenobia

Tinea

Adela (Phanocera West)

Hypopynoptera (Phan West)

Neuroterus (Phan West.)

Ectochela

Colococera

Balachetra

Elaeista

Lithocelidae (Lithocelidae rev.)

Lycaenidae (Lycaenidae)

Nepticula

Arranged. Pack guide

Lunice first set the example of having the specific names of the Tortricidae and in ana. & the Tiniceids in Ella, & at the present day the rule is generally followed by Entomologists who have also given the same termination to the names of the smaller species of Pyralids such as *Pseudaletia Crampus* &c

Pack guide 346

Tiniceidae Lach. distinguished by their elongated very slender body & the long

as very long wings to the wings in the development of the pupa & their variety in form. Tiniceidae offer the most tangible grounds for separating the greater number of genera. (Stainton in Pack guide 342.) (Many pupae greatly developed, lateral pupa rarely seen. Med. 2,600?) Many of the larvae are leaf miners & their burrows are detected by the manner broken without any on the surface of the leaves & their "pian" or excrement thrown out at one end, some contract portable ones others burrow in the stems of grass &c &c. Pack guide 342.

For raising the larvae see also Pack guide 343.

♂ pos. height  
♂ pos. crest.

funnel a point  
discus a round plate, quite  
puncta few  
cilia a drop.

uncus one alone  
punctum point

funny yellow  
antennal notch of an egg

*Ypsolophus*

"The species described by Dr Fitch under the generic name of *Chactochilus* belong to this genus" Clem. P&S P. 2 p. 123.  
I have been unable to recognize any of the following in his descriptions of *Ypsolophus* Clem. P&S Soc Phil. 1863 p. 123.

*Ypsolophus puncticollis* Clem. P&S P. 2 p. 123.

*Ypsolophus punctiguttellus* Clem. P&S P. 2 p. 123.

*Ypsolophus unipunctellus* Clem. P&S P. 2 p. 123.

*Ypsolophus flavovittellus* Clem. P&S P. 2 p. 123. (ba)

*Ypsolophus* Clem. P&S P. 2 p. 123.

*Chactochilus* (Staph.) *Confutabilis* Fitch N.Y. Agg Rep. 1855 vol 15 p. 463, Mar. 52.

Cannibal Palmer worm

Hab. N.Y. (Fitch)

Food plants Apple & Forest trees

note genus *Chactochilus* no longer recognized Mar. note 52

*Ypsolophus*, Clem. P&S P. 2 h 123

(Fitch N.Y. Agg Rep. 1855 vol 15 p. 452  
or 52. & fig. 46 fig. 4.

*Epactolulus pomellae*:  
I pale yellowish green with darkish stripes along each side of back  
laid on upper side with a narrower whitish stripe & a dusky line on  
mid back 0.30  
Gns. with gray forewings sprinkled with black dots & black dots  
dots near middle & 6 or 7 around their hind edge. 0.63  
many  
ken threads &  
threas June N.Y.

fig. 101  
fig. 3. fm. Fitch.

♂ upa formed in small silken cocoons. July remain as pupa about 10 days.  
→ Larva destroyed by a parasite grub. Fitch N.Y. Agg Soc. 1855 p. 661 Food Plants Apple Cherry Crab Plum  
Hab. N.Y. (Fitch) Man. Harr. Forest trees (148)

*Ypsolophus* Clem. P&S P. 2, 122

*Chactochilus trimaculatus* Fitch N.Y. Agg Rep. 1855 vol 15 p. 465, Mar. 52

Triple spotted Palmer worm Fitch

Hab. N.Y. (Fitch)

Food plants Apple & Forest trees

*Ypsolophus* Clem. P&S P. 2, 122.

*Chactochilus ventralis* Fitch N.Y. Agg Soc. 1855 vol 15 p. 466 Mar. 52

Belly spotted Palmer worm Fitch

Hab. N.Y. (Fitch)

Food Plants prob Apple & Forest trees (148)

trimacula  
3 spots

ventral belly

282-288

*C. halochilus* multistellus

*L* resembles *palma* worm in form & size but is rather narrower & more slender & the stripes along the back on each side are tawny yellow. There is a pale stripe along the lower as well as the upper side of dark stripe. ♂♂  
Inns. differs from *polometella* by the fore wings having no black dots. ♂♂.

*Tineia evonymella*. Europa. In Italy.

→ destroyed by *Eurytis atricollis* Europa  
leaving skin hard & pierced with holes.  
See Agrope p 10 fig 34

*Tineia* or clothes & carpet moth. Po Ent 1. 64  
Remedy. Take a few camphor. Put up with the articles in linen bag. Care being taken to expose the articles previously to the hot sun for some days in order kill any eggs or young larvae always depend on the clothes.

Moths

in spring examine -  
gum camphor in coarse powder sprinkled among clothing - Ground black pepper upon the floor for carpets. Am Ag. 1860.

*Tineia* or Clothes moths

Remedy. Alum is recommended & for it thrown freely. or dissolved in water & the liquid applied. (T.M. Steele unpubl. 190)

*Tineia* ?

Gooseberry Moth

Surpassed by Dr. Tick to be a *Tineia*.  
a slender greenish worm about 1/2 inch in length with a dark colored nose (?) a dark band across the top of its neck & toward the head a pair of feel black form a tube of silk threads from a cavity in the body through a hole in its side is an adjacent bay through which is crawling out & in the fruit when half grown perches its anterior legs eat out by the worm. Tick 1/4 rep. 176.

Fruit Gooseberry

To Preserve Furs from Moth Am Ag June 1860

A correspondent submits the following which seems quite plausible, since work in cotton or linen: Shake out or beat them, to expel any moths already in them; then inclose them in a cotton bag (or one of linen) in a garret, or other dry place, no access for the parent moth except to the bag, no eggs will be laid in the furs.

*Tineia (affinis) granella*. ? H. Pal of Rep Ag' 1854 p. 67.

Larva feeds upon the interior substance of Maize & Cotton Seed in Georgia & at first taken for *Tineia granella*. - as its habits were very similar

J. S. Ag' 1854 p. 9. Geo

Nat. Geo., SC.

Food plant seed of  
Maize & cotton.

*Tineia*. Larvae feeding on Rosa spinosissima  
Jach 20.

Parasite in nest  
*Bethylus fuscicornis* Europa

*Pyralidae* Clem N.E.S.P. 2. 122many an apple tree  
Julian leaf*Chalochitlus malayolaeus* Fitch & M.S Ag Soc 154463. Mo. 2.  
1855Tunney stricken Pulmon worm Fitch  
Larva reside in leaves drawn together fastened with a silk-like thread. July

Nat. N.Y. (Fitch)

Food plants Apple &amp;c Forest trees

Tinea head strongly creased in front, maxillary wings than the very short maxilla joined laterally  
halter slender & straight fore wings glassy  
inner margin dentate, rounded behind.Tinea a moth  
acronym hairy  
acoma dry wood  
humus forest.*Tinea Keller acuminipenna* Clem V. Acad Nat Sc Phil 1859. 257. & P.E.S.P. 2. 127.bis line flavescent yellow  
macula spot*Tinea biflavinaculella* Clem P. Acad Nat Sc Phil 1859. 257. & P.E.S.P. 2. 145.

Mo. 5.

Nat Labrador I closely allied if not identical with *S. spilotella* Ehr. Linn  
Scandin P.E.S.P. 2. 130

crinis hair

*Tinea crinella* Har 493. Borge. p. 67. pl 5 fig 14

Ins pl 101

Hairy moth Har

Feather moth  
"The gray yellow the upper wings more brown & "Feath. Hair. (Har)  
shining" Borge  
"Feathers Borge.flavus yellow  
front*Tinea flavifrontella* Har. (of old naturalists) p. 494 Pack. guide 346

Orange Fronted Tinea.

or Clothes moth of Pack.

Insective light  
buff orange left on  
forehead deeply fringe first pair  
Cane traps.Insect thought to be similar to *I. destructor* of HarLarva very destructive to wool on the mounted specimens  
of sheep in the Museum of the Dept of Agriculture  
also found living dead by hundreds in the Army  
medical Museum at Washington amongst the  
bones &c.

Ins pl 66

Pg 14 D.C.

Nat. L.C. Md. Va (J.G.) May (Har) Wool Flannel Fur Feathers Wool &c  
not *Batia flavifrontella* of English entomologists. Har. 494gramum grain  
wheat &c*Tinea granella* Har 493. & 96. Pack. guide 347

Grain moth. European grain moth. Wolf

Larva soft naked cylindrical tapering  
a little at each end. 16 legs light color  
or buff with reddish head.  
Hrs. with a whitish tuft on forehead  
wings long narrow of corn back like  
a sloping roof & a little turns up  
behind. Wings with a wide fringe  
fore wing glaucous marked with white  
or gray, light or dark brown  
or blackish spots. Always one  
square spot near middle of outer  
edge. hind wings blackish 0.20  
0.40

Female lays 30 or more minute eggs one or two on each grain of wheat &amp;c

Eggs deposited on grain May - July &amp; Aug.

? 18/1

Larvae as soon as hatched begin to gnaw the grain & cover themselves with the fragments which they fasten together with a silk-like web. Ins. pl 100  
When older they fasten several grains together so as to make a large cavity in which they live, afterwards wandering over the grains  
& spinning threads as they go until they find a suitable place to form their cocoon. The first brood finish their transformations in 6 weeks  
as 2 months, the late broods hibernate (Kraatz)

Pg 12 fm

Cartes

Pupa formed in a little oval pod or cocoon about the size of a grain of wheat in crevices around the corn husks or amongst the grain

Insect emerges from the cocoon in about 3 weeks the pupa having previously forced itself out of the cocoon by the aid of little sharp points on the tail (Harr Max)

Insect. (Kraatz) *Mosquitella manutonica*. Curtis 340.

1866 Barley Wheat &amp; grain in general

*Tinea officinis* Granella see opposite page.*Tinea pelionella* Linn Har. 493. Borge p 37. pl 3/7 10.Ins pl. 101  
Pg 6 fm Borge

Our moth

Larvae fabricate their cases from hair which they (Food Hair)

eat or cut off the hairs or kids. &amp; therefore are very injurious

wings near the fore body have a grey gold &amp; silver shiny appearance &amp;c.

Nat Europe. (Mas?) in Harr. Ins.

(148)

*Tineo sarcitella* West 2, p. 407. Curtis Faun. insects p. 366

Laverna " West & Curtis

*Unacampus* " Carnes 493. Mor 0. Tineo sp. fil 101  
Tack Moth (Hemic) Sack or. White shawlored Moth Curtis. Fig. T. fm Curtis.

Larva assist in the destruction of peach beans which were previously infested by Bruchi (pea bugs) sometimes even chewing together the sacks in which they were contained with their webs, when feeding on mottled fabrics the Larvae live in cylindrical cases which they form of the materials on which they subsist covered with their elongated opercular mouth situation "Cust. playas formed in the same case

parasite Europe Bracon variegator Curtis. 370

Larv. destroy Peach Beans. (Europe)  
Meal Wrecker above.

*Tineo sex.* L. dull white soft flexible sutures between segments but slightly marked head horny shining brownish yellow 2d segment also on back horny yellowish white last segment with a similar spot form cylindrical broadest in the middle 0.50 Ins. greasy appearance forewing gray (reddish) basal third dull white lips rounded hind margin cut off obliquely hind wings white slightly glossy hind edge flaps pale brown spiral tongue long. Fitch - see if in Fitch 0.60

Clothes Moth. Remedy alum is recommended as all that is required for pens it should be pulverized & sprinkled into & over them freely or dissolved in water & the liquid applied to corners in New Eng. 2, p. 90

*Tineo*  
Clothes moth. Raich Ann Natl 1 423. f/g Sp  
Carbolic acid recommended as a remedy

tapete carpet-

*Tinea tapetella* Har 493. Clem PEST 3. 507 Pack guide 347  
Tapestry or Carpet moth. Har T.P. Stelle. Am Ent 2. p 90.

Larvae use the material on which they feed to construct moveable cases & destroy woolen materials &c

Pupa formed in the case the larvae having previously turned itself in the case when about to become a pupa they prudently themselves out of this case when about to become a perfect insect.

Ins pe 77  
Pg 14 Plan Coll  
in cabinet Ent Soc N.Y.

note "This is an European insect I have never before, however met with a specimen of it. I do not know the circumstances of its capture" (Clem)  
a single Specimen Va. coll Ent Soc Phil

Hab Savannah Tenn (Am Ent) Food. Fox Feathers Carpets Woolen materials objects of Natural History &c

vestis, a garment

*Tinea vestimentella* Har 493. Am Ent 2 p 90  
Clothes moth Harris

Larvae eat cloth & clothes forming little cases on rolls of the substance on which they feed.  
Pupa formed in the same case.

Sum. (Am Ent)

Food Tapestry Carpets &c

sea Mairie

*Tinea seae*. Fitch 2<sup>d</sup> Report NY S Ag Soc 330. Mar 51.

Indian meal moth Fitch

Ephesia. Am Ent 2. 374 Larva found burrowing in the seeds of Magnolia V. Spruce } Magnolia & Spruce { Lep. H 16 tree also quite destructive to grain of Prairie in the Museum tab D.C. of Dept of Agriculture & to several other seeds & grains Ins pl 22 Dr Fitch states that they feed upon "Empire cakes" of Dr. 16 coll of Mairie "I am form cylindrical burrows taking the substances on Mairie man which they feed from the sides of the passage with fine threads like cobweb" Fitch

{ pupa formed in a cocoon formed of white silk threads appearing like a coil of mustard through wh. the chrysalis is visible Fitch }

Food Seeds of Magnolia V. Spruce Tree & Mairie & other Grains & Seeds.

Hab NY (Fitch) Mass. (Sandson) DC. Md. Va. (F.G.)

Emptying Cakes of Mairie (Fitch).

Dandelion (Dried roots) Bee bread in Bee hives { Am Ent 4. 102 2. 376 }

Dried Peaches (Wash & Ent 2. 110) Dye flower seeds garlic herbs Preserves in Tanks Clem Dr. Ac Nat Sc. Phil 18th 206

Tinea ?

Larva destroyed the stuffed skin of an Opossum in the Museum of the Dept of agriculture by eating off the hairs near the roots.

Ins pe 20  
Pg 7. D.C.

Food Hair. &c Fur.

Hab (G) (F.G.)

Tinea ?

Larva destroys woolen cloths. &c L.C.

Ins pe 22  
Pg 12. L.C.

Hab DC (F.G.)

Opossum back  
String a few new

*Tinea dorsostriella* Clem. Stanton PEST 3. 130 allied to ferruginea

*Tinea canariella* Clem. identical with *T. hispida* Europa Stanton PEST 1. 130

*Tinea nubilipennella* Clem. identical with *T. fuscapunctella* Europa Stanton PEST 1. 130

149

- Osmia cornifrons*
- o. 2x. L slender flattened cylindrically soft, 10 segments dull white head much depressed & 3 lobulated segments rusty brown an interrupted broad blackish band or stripe along mid back, only the fore legs distinctly developed
  - o. 1x. ♀ fore wings a pale yellowish green when the leaf drops thereon in all winter.
  - o. 3x. ♀ pale yellow oval tapering slightly to a point *leg*  
wing 4 antennae enclosed in separate sheaths  
not adpressed to each other or to the surface of body
  - o. 3x. ♂ dark bluish blue color with bright orange band

" " (curious) Gracile ana distinguished by the length of antennae narrower of the wings & the great breadth of the alia of the hind wings the moth set in a very peculiar manner with the head greatly elevated the hind pair of legs concealed & the 2 anterior pairs extended nearly at right angles from the body the fore leg at each side being hidden by the middle leg which is densely clothed with scales

West 2. 412

In pl 100 ♀ *Aphomia colonella* Genn Pack guide 329. fig 252 (European also U.S. Hab)  
fig 7 fin with ♀ The female moth creeps into the nests of Humble bee in June to deposit her eggs  
In pl 101 ♀ & the caterpillars live in families Sometimes of 500 to the total destruction of  
fig 4, caterpillar the progeny of the humble bee. - pupa formed in a cocoon of a close woolly texture  
? if not a syn of *Scolita colonella* see West 2. 411 (See note 126) *Populus* Honey of Humble bee

is a ♀ *Aphomia* <sup>hew</sup>  
Syn. *Scolita colonella* Curtis farm insects 387

Large Humble bees in England are also destroyed by the larva of a dipterous insect  
*Volucella mavis* which lives in the brood

*Pempelia* Hb. grossulariae Pack. 97/5  
berries gooseberry pear

*Incurvaria* Haw Clem Pr Acad Nat Sc Phil 1860 p 5.

Incurve to curve  
*Incurvaria* (Haw) *acerisfoliella* Clem Pr Acad Nat Sc Phil 1860 p 5. Mor 51.  
*Ornix acerisfoliella* Fitch 2<sup>d</sup> Rep N.Y.S. Ag Soc. 2. p 272. 84 N.Y.S. Ag Soc. 1863 p 15. JPL 4, fig 5-6.  
 Maple leaf-eater Fitch  
 Hab NY. Larvae reside in round scales adhering to the surface. Food Maple. Ins. Aug. 1863. Fig 2. Fitch  
 → larvae Johnsoni. Fitch 1865 p 504. "the leaf, eating round holes & devouring the pulp in semicircles causing the leaves to turn brown as though nipped by frost in Aug. 1863." Fitch

*Incurvaria labradorica* Clem PESP. 2. 416. Hab Labrador*Incurvaria mediosiliella* Clem PESP. 5. p 167. Hab Pa.

Ins taken on the wing in damp mossy litter just July.

*Gracilaria* Haw. Agas. Gracilaria gracilis Clem Pr Acad Nat Sc Phil 1860 p 6. 84 PESP. 4. <sup>(PESP)</sup>  
 no footed

Larvae when young mine the leaves but at a late period of their growth when young they mine the leaves but at a late period of growth many of the species construct cases by rolling up a portion of the leaf. They devour the inner portion of the case which thus becomes discolored & easily observed. Clem PESP. 2. 10.

rusticus old ancient

*Gracilaria reticulata* Clem Pr Acad Nat Sc Phil 1860. p 6. 84 PESP. 2. 10. Ins 25<sup>th</sup> July Pa

Desmodium plant  
folium leaf

*Gracilaria desmodiophylla* Clem PESP. 5. 145.  
*violacea* " Pr Acad Nat Sc Phil 1860 p 7.

superbus super  
frons frond  
blunt.

*Gracilaria superbipunctella* Clem PESP. 5. 165. Mor 52 Clem Pr Acad Sc Phil 1860. 6.*Gracilaria blandella* Clem PESP. 5. 145. desc. Clem PESP. 3. 505-8 Pr Acad Nat Sc Phil

fulgida bright

*Gracilaria fulgidella* Clem PESP. 5. 145.*Gracilaria venustella* Clem PESP. 5. 146. Ins. Pr Acad Sc Phil 1860. 6.*Gracilaria striiginstella* Clem 1868 P. 5. 146.

corona a crown

*Gracilaria coronella*. Clem PESP. 5. p 145. & Clem PESP. 2. p 121 descrip.

lurek hibernates as it was taken by Mr Walsh  
under last bark of trees in winter. (Clem PESP. 2. 421)  
Hab Illin

Ins p 69.  
Fig 33. Coll of Mr Walsh Illin

*Tetralopha* (Haw) *melittella* } or *robusta* } or *carolina* } or *georgia* Mor 50*Aphytina* (Haw) *teretella* Zell Gc. Mor 50*Mycela* (Haw) *indigenella* or *oxalella* Zell Mor 50.*Pemphelia* (Haw) *lignosella* or *petiella*. Zell Mor 50 see p. 126.*Anacamptis* } see *Gronoviacidae* p. 145  
robinella &c

Brassica cabbage

*Cerostoma* (Latr) *brassicella* see *Platella limbipunctella* p. 151*Argyromyces* Mor see *Gronoviacidae* p 145.

*Plutella xylostella* Pack 2<sup>d</sup> Rep Mar. 12.

Larva nearly cylindrical, thickest in the middle, pale green varying to pale yellow, head yellow or dusky, minute black dots each with a single hair to above & 4 on side of each segment. numerous dots on neck & head fringed with brown.  
 0.35. commonly white with black eyes frequently variegated with brown stripes &c in young like cæxon & ash gray fore wings freckled with black dots on dark gray. Above I have a white stripe on mid margin hind wings leaden brown glossy without spots 0.55. on dots. antennæ 4 bands side of abdomen white variegated. The white stripe not always distinct.

THE CABBAGE PLANT CATERPILLAR

Early last month Mr. John Ferenc of Norwich, Conn., sent us some specimens of young cabbage plants with numerous holes eaten in the leaves by a small caterpillar. A few days later we received a box containing three specimens of these insects. These were forwarded at once to Prof. Glover, Entomologist at the Department of Agriculture, Washington, D. C. The following is the reply from the Commissioner of Agriculture, giving the name and description of the insect:

WASHINGTON, D. C., Dec. 22, 1871.

DEAR SIR: Your letter of Dec. 11, addressed to the Entomologist, has been received, and the following is communicated in answer.

The insect accompanying your letter, and sent as injurious to the cabbage plant, is the caterpillar of a small moth, named *Plutella limipendula* by Clemens, and described by Fitch in New-York State Agricultural Report, April 1851, page 103, and in the Entomological Record, Vol. 1, No. 1, page 11. The larva eat holes in the outer leaves of cabbage, &c, sometimes riddling them like a sieve, in the Autumn. When the caterpillar is disturbed it suspends itself from the leaf by a silken thread. In the morning it is at the surface of the ground, where the pupæ are formed in the leaf. This insect is synonomous with the *Plutella* of Europe. The perfect insect is a small moth, an inch long, with black dots on head and apex with black dots in the inner margin. The best remedy most probably would be the same as recommended yourself for the white butterfly. Washing or spraying the leaves with whale oil soap-suds no doubt would be of use if it did not give the cabbages themselves a disagreeable flavor if not thoroughly washed off.

FRED'K WATERS, Commissioner.

Dipping the plants in whale oil soap-suds is the best remedy we know, and next to this is strong solutions of tobacco water.

*Ceratoma brassicella* Feb. 3  
*Plutella xylostella* Jan.  
 Cabbage worm

By Griswoldly 1872. 187  
 1/2

probably would be the same as recommended yourself for the white butterfly. Washing or spraying the leaves with whale oil soap-suds no doubt would be of use if it did not give the cabbages themselves a disagreeable flavor if not thoroughly washed off.

Dinia Tab. Mor 51. see p. 149.

? derv  
numerous a few  
names a bunch  
*Xyleschia* (Clem.) *fumariella* Clem. Sp. Acad Nat Sc. Phil 1859. 209. Mor 51.  
Hab. Pa.

? derv  
affrancata rash unbristled  
*Amygdoria* (Clem.) *cinnamomeella* Clem. Sp. Acad Nat Sc. Phil 1859. 260  
Hab. Pa.

? derv  
carrying back  
plum.a feather plum  
front  
*Anaphora* (Clem.) *plumifontella* Clem. Sp. Acad Nat Sc. Phil 1859. 261. Mor 51  
note "I am utterly perplexed with this we have no European  
form at all resembling it" Stanton ESPR. 2. p. 120  
Hab. Md.

*Anaphora* ?  
Hab. Md. SG, Pa (Clem)

*Anaphora*, *ropecanella* T. arcandria. Clem. Sp. Acad Nat Sc. Phil 1859. 261. Pa

*Incurvaria* Haworth. Mor 51. see p. 149. *acerifoliella* Fitch. 101/2

*Spathus* short hairs sp. *Brachytænia* Steph. malana Fitch Mor 52 see *Sonchus malana* p. 138.  
malus cyathiflora

*Plutella* nigricollis Clem. in the European *P. Porrectella* Food plant Rocket (*Hesperis matronalis*)

member of the cruciferous family as cabbage etc.  
leaves once as turnips etc.  
Leaves horn  
stems mostly on  
sheath,  
leaves a lace or border  
leaves a feather

*Plutella cruciferarum* of Europe Stanton ESPR. 2. p. 181 Ann Ent. 1. 199.

*Plutella* (Schrader) *limipenella* Clem. Po Acad Nat Sc. Phil 1860. 6.

*Ceratostoma brasiliella* Fitch 1st Rep. 170. Mor 51.

Cabbage moth Fitch. 1st Rep. 1853. vol 14 p. 875.  
Summer: deposit on backs molt 0 sometimes ready them like a saw Ins. pl. 68

Larvae eat holes in the outer leaves of Cabbage A in the 1st, 30-31. coll of M. Hatch & Elmer

autumn & when disturbed suspends itself by a silken thread 2 broods in a season Md

pupa formed in a cocoon like open not work on the leaves &

1st 2 broods annually in summer & the second in Oct.

*Plutella limipenella* is the European *P. cruciferarum* of Europe Stanton ESPR. 2. p. 181

Food plant Cabbage - Fig. 9. (mag.) 2nd Lab. cabbage.

Parasite Ichneumon Fitch 1st Rep. 170. Gilly flower. & other cruciferaceae  
in Europe Camptopex parasitus. Lar.

*Plutella cruciferarum*. Xylostella brassicella of Europe are allied species

Hab. N.Y. (Fitch) Ma Va D.C. (SG) Glin (Malta) Missouri Am. Ent 2/374 (destructiva.)

*Hypnomoneuta* (Zeller) *Mulhypunctella* Clem. Mor 1. 52 see *Hypnomoneuta* P. 145.

? derv  
numerous a December  
garry hair  
Keros oil.

*Eudarcia* Clem. *simulatrix* Clem. Po Acad Nat Sc. Phil 1860. p. 11. Mor 52.

*Chaetochilus* Stephens Mor p. 52 see *Ypsolophus* p. 148.

*Argyresthia* Hab. oratella Clem. Po Acad Nat Sc. Phil 1860. p. 7. Mor 53.  
Samucas with European *A. undulatella* Stanton ESPR. 2. p. 181

*Gracilaria* Zeller see p. 150



worms a kind

*Ornix acerifoliella* Fitch see *Incurvaria* p. 150.

*Ornix* habits of *Larva*. " In early life the larvae are leaf miners & make mines on the under surface of leaves difficult to be distinguished from those of the genus *Lithacolletis*. Towards maturity, however they abandon their mines & feed under a portion of a leaf turned down from its edge which is bound closely with silk when they are full fed at small portions of the edge of a leaf is turned over & the larva weaves its cocoon within the cover thus made." Clem P.E.S.P. I. p. 86.

quarters four  
hundred a point

*Ornix quadrifasciella*. Clem P.E.S.P. I. p. 86.

Lar Early Aug mines on the under surface of leaves (Pa) *Amelanchier*  
Hab Pa (Clem) Food plant Juneberry, Service berry.

*Ornix borealis* Clem P.E.S.P. II p. 415.

Hab Labr. (Clem) I. resembles *Ornix guttata* of Europe

*Ornix eratogifolia* Clem Pr Acad Nat Sc Phil 1860 p. 8. (Pa) Thorn.

*Casmopteryx gemmiferella* Clem Pr Acad Nat Sc Phil 1860 p. 10. Mor 52 Pa.  
*Casmopteryx clemensella* Stainton P.E.S.P. II. 131.  
*Clemens. Casmopteryx*

*Bedellia* (Stainton) *somnulentella* Clem P.E.S.P. I. 147.  
" *staintonella* Clem Pr Acad Sc. Phil. 1860 p. 8. Mor 53.

when young

June to ?

*Bedellia somnulentella* Stp. 3

mines blisters in leaves of morning glory. Old Larva claret color shaded with green white spots & on each side of 6th segment 1 or 2 fifth each side. 2 on each side of 6th & 7th segment other larvae green with claret spots larger on the 2<sup>nd</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, 6<sup>th</sup> & 7<sup>th</sup> segments somewhat hairy the white spots showing faintly. - very minute central feet on the 7<sup>th</sup> & 8<sup>th</sup> segments. Some vestiges of feet on the 6<sup>th</sup>.

Pupa formed amongst a slight web formed of two or three threads spun loosely from one place to another like a position of a spider web frequently formed on the back of a leaf the pupa is generally found with the head downwards

20125, a sheath or case  
pores bearing

*Coleophora* Kella. " The young larvae feed as miners in the interior of leaves or in the interior of seeds when a leaf mining larva has attained a certain age it cuts the two skins of the mined place & constructs of it a portable case which it never abandons subsequently except to construct a new one when its increase in growth demands the change. In feeding the larva attaches its case to a leaf & covers all its below the skin's cutting out a transparent patch extending its body from the case for that purpose but quickly retreating into it again if alarmed. Some seed feeding species remain within the unbroken flower & are therefore entirely concealed until they are quite full fed others make a case of the husk of a seed which they have eaten & are very difficult to distinguish from the unripe seeds of the plant that are the most frequented by the members of this genus. The natural orders of plants that are the most frequented by the members of this genus are the Leguminosae (Pulse), Compositae (Composito), & Labiate (Mints etc) at least this applies to Europe & probably to our own country. The larvae except when preparing to form a new case make small mines. The discovery of a leaf in which there are one or several transparent patches & the skin of the leaf entire with one of them pierced with a minute hole is a very certain indication that it has been the work of a Coleophora larva. The larvae hibernate in their cases during the winter & produce imagines the following summer feeding up during the spring." Clemens P.E.S.P. I p. 78. (151)

" Larva change  
to pupa within  
the case" Clem  
P.E.S.P. II p. 6

in, intricately  
a central line st. No. CXVII,  
anteriorward  
view the cuticle  
in last wood

Morning Glory &  
*Ipomea purpurea*.

in Pr Acad Nat Sc Phil 1860, 9  
Mor. 53.

*Coccophora cerasicorella* Pack. in *Agriculture of Mass.* 1869. 70 p. 232.  
Am. Nat. IV  
It feeds on leaves of Cherry Salem Mass.



carya. Hickory *Coleophora caryaeella* Clem PESk. 1 p 78.

L mines in leaf of Hickory Sep & Oct.

"Case small dark brownish & in form is a flattened simple  
cylinder fixed to the under side of the leaf. Clem

Food plant Hickory

Corylus harts

*Coleophora cornifoliella* Clem PESk. 1 p 79.

"Larva mines leaves of Harts Lf.

Case 3 lines long dark brown irregularly cylindrical  
compressed or flattened at its hinder end with two teeth  
about the middle of the upper edge separated from  
each other about one third of the length of the case &  
dilated <sup>somewhat</sup> rounded on the lower edge between the teeth." Clem

Hart Pa

Food plant Harts

beburnum. Black Haw

*Coleophora viburnella* Clem PESk. 1 p 79.

"Lar mines the leaves of (beburnum prunifolium) Black Haw sep & Oct.

Case irregularly formed reddish brown nearly cylindrical with a delicate  
mouth & tapering at the hinder end on the upper edge is a flattened wing  
like appendage serrated on its upper edge nearly equal to one third of the  
case in length & the case is attached to the under surface of the leaf &  
the mine is an irregular blotch. "Clem

Hart Pa

Food plant Black Haw

wild Curr

*Coleophora pruniella* Clem PESk. 1. p. 79.

"Larvae mine the leaves of wild Cherry early in Oct.

Case flattened having a notch on the upper edge about one third  
from the mouth whence it is curved regularly to the hinder end  
& the under edge is nearly straight from the mouth to about one third  
of the length from the hinder end where it is deeply notched & curved  
towards the upper edge thus forming a tail like appendage." Clem

See fig 94  
fig 10 coll of  
McSamborn May

Hab. Pa (Clem) Mass (Samborn)

Food plant Wild Cherry

Ostrya Ironwood *Coleophora Ostryae*. Clem PESk. 1. 79.

Lar mines the leaves of Iron wood *Ostrya virginiana* Oct & early Sprg.

"Case flat rather wide, the edges nearly parallel except near its mouth  
the upper edge is slightly curved & almost at the hinder end is a slight notch  
which is sometimes wanting & the hinder end is squarely excised.  
Case pale reddish brown." Clem

Hab Pa

Food plant Iron wood.

Tilia Linden  
folium leaf

*Coleophora tiliacefoliella* Clem PESk. 1 p 80

"Lar feeds on the leaves of the Linden from beginning to latter part of May.  
Case black somewhat pestle formed straight along the upper edge turned  
abruptly down so as to form a handle like appendage behind which  
a pointed flattened projection about the middle of the under edge whence  
to the mouth of the case it is cylindrically Case fixed to the under side  
of the leaf." Clem

Food plant Linden

(152)



*Coleophora* sp? Pack guide 352 pl. 8. fig 17 May<sup>2</sup> Larpl. 100  
Lar found feeding on Pear. 5th Sep. <sup>Fig 25 from Pack</sup> Food plant Pear

queous Oak

"*Coleophora* Quercella Clem P E S P. 1.80

" Lar feeds on leaves of oak. Oct it does not make a mine at date but picks out the parenchyma of the leaf from the under surface leaving a net work of veins & the upper epidermis of the leaf entire. Case blackish brown & smooth the larva permitting the lower edge of the case to come in contact with the leaf, the case is slightly protol formed the portion near the mouth circular & depressed beyond which is widened & tapers on the upper edge to a hummock or projection about the hinder third whence the outline descends to the posterior end which is squarely excised the under edge is curved to a notch nearly opposite to the hummock on the upper edge.

Habits of Larva similar to the European *C. Ichneumella* of Europe but the case differs from it in form "Clem"

Food plant Oak

note These cases were found on the Oak Md <sup>Sept 4 Oct 4</sup> resemble the above description excepting that the end is not squarely excised.

Case pl. 22 Fig 14 Md on Oak leaves Sep.

Herbs white  
herbs pale,

"*Coleophora* luteochrysa Clem P E S P. 2 p. 6. desc.

Ins. July. ♂♂ upper wings immaculate white  
Hab Pa.

concolor one color

"*Coleophora* concolorella Clem P E S P. 2 p. 6. Hab Pa

Rosa non  
folium leaf

"*Coleophora* Rosaefoliella Clem P E S P. 2 p. 426. Pack. guide 357.

" case silken covered with granulations cylindrical slightly compressed the mouth slightly dilated & the opposite end turns down slightly, hook like. Color gray varied with gray & reddish brown granulations. 19 Ap. found on the opening buds of the common Handed Leafed Garden Rose. During the winter the case was attached to a thorn. ♂♂ appear 205. May. "Clem" Hab Pa

Food plant. Garden Rose

Rosa rose

"*Coleophora* rosacea Clem P E S P. 2 p. 426. Pack guide 351

" case made of the cuticle of the rose leaf on wh the larva feeds. It is a compressed cylinder dilated slightly on the middle of the under edge & serrated above. Color dark occurs in Lar Ap (9 Pa) feeding on the opening buds of Sweet Briar & cases attached to the thorns of the bush or one of the principal stems during the winter" (Clem)  
Ins. appears May & June (Pa)

Hab Pa (Clem)

Food plant Rose & Sweet briar

creates a bundle of rods  
penna. a feather down

"*Coleophora* cratipenella Clem P E S P. 3. 506. desc Hab Pa. Clem  
Hub No Eu "I need some more info white striped along the axis with dark ochreous." ♀ (Clem) on the base of the wings are three stripes &c

coquens whitening

"*Coleophora* cornusipennella Clem (Strand) P E S P. 2. 181. nearly allied to *C. fabricella* Europe Pack guide 357

"*Coleophora* ? Food guide 359

Sept. case long flattened cylindrical alike at each end constructed of the rind skin of Apple tree

relates with or  
around.

"*Macrorhynchia* (Clem) velatella Clem Proc Acad Nat Sc Phil 1860 p. 18.

Hab Pa Clem

this is *Macrorhynchia* of this from *Macropis subgenitum* (*Chelonarium*)

(152)



*Nepticula* "The 6 anterior legs so universally present in Lepidopterous larvae are wanting in Nepticula larva & are replaced by numerous processes or prolegs, such of the remaining segment are furnished with a pair of prolegs making 16 in all." Clem PESR. 5 p. 146

*c. Nepticula* Larva mines very narrow serpentine paths in the interior of leaves the mine being always on the upper surface. The mines vary much in form being sometimes a slender gallery or line either simple or enlarged towards the end into a blotch or a complete blotch. When the larva is full fat it quits the mine cutting for this purpose the separate cuticle in order to weave a minute cocoon.

The larvae of some dipterous insects make mines that strongly resemble those of some of the nepticulid but they may usually be distinguished by the more sluggish like appearance of the former" (Clem PESR. 1 p. 82)

*Nepis* a grand daughter  
or niece

*Nepticula* <sup>new</sup> *conspicuella* Clem PESR. 1 p. 88.

Food plant *Karile*. Pack guide 356

Complex hairy  
fern leaf

Larva makes a long winding narrow tract in the leaves of *Karile* in the latter part of July & the beginning of Aug. The fall brood may be found early in Oct. The frass or excrement of the larva is deposited in the middle of the tract forming a minute central black line" Clem

Cab Pa

Food plant *Hawthorn*

Note "another mine probably a dipteron makes a rather broad tortuous tract much broader than the preceding & the frass is scattered in separate grains along the middle of the tract" Clem

Ostrya. Ironwood  
fallen leaf

*Nepticula* <sup>new</sup> *oxydella* Clem PESR. 1 p. 88.

Food plant Iron wood.

Cab Pa.

virginia virginia *Nepticula* *virginella* Clem PESR. 1 p. 88.

Larva mines a very narrow long tract not broader than the width of the larva the interior of which is filled up with disperse grains of frass. Which is dark brown until the larva is full fat. Early Sep. by the 4<sup>th</sup> esp. it is nearly full fat. (Clem)

Cab Pa.

Food plant Iron Wood

*Nepticula platynella* Clem PESR. 1 p. 88. desc. ins Clem PESR. 1 p. 133. & 149. Pack guide 356

Wab Pa

Larva from beginning to mid July forms a blotch which is often extended over the early portion of the mine so as to obliterate it, & again the early portion is present being a slender line from which the blotch is formed. Cocoon of a reddish brown color woven during the latter part of July (Pa) Clem Ins July, latter part.

Food plant Button Wood or Sycamore.

crataegus thorn

*Nepticula crataegifoliella* Clem PESR. 1. 88

Larva "mines rather a wide tract from the middle to the later part July, this mine is not long, most often tortuous sometimes turned back on itself & when nearly straight with irregular edges having a narrow central line of frass running through the middle of it" Clem PESR. 1. 88

Cab Pa.

Food plant Dwarf thorn  
*Crataegus parvifolia*



*Nepticula microtheriella* Pack. Guide 355  
a nut leaf containing from 20 to thirty larvae of this insect.  
is no unusual sight.

Food plant Nut (not Naste)

juglans walnut  
folium leaf

*Nepticula juglandifolia* Clem p. 68 P. 1. 84.

Larva latter part July to middle of Aug. mines a very narrow whitish tract very often recurved & slightly tortuous somewhat although slightly enlarged at its end with a very narrow central line of frass. Clem P. E. S. P. 1. 84.

Hab Pa.

Food plant Black Walnut.

carya, walnut  
folium leaf

*Nepticula caryaefolia* Clem P. E. S. P. 1 p. 84

Larva late July & early Aug. mines like the preceding but rather wider & elongated & not so tortuous but nearly always recurved & with the central frass line. Clem

Hab Pa

Food plant Hickory.

rubus Blackberry  
folium leaf

*Nepticula rubrifolia* Clem 18<sup>th</sup> Occas nat Sc 1869 p. 214. P. E. S. P. 1. 84

Hab Pa

Food plant Blackberry

villosus hairy

*Nepticula villosella* Clem P. E. S. P. 1. 84

Larva July mines a very narrow tract only about wide enough to accommodate the mine, tortuous with a central "frass" line (Clem) leaves its mine during the latter part of July

Hab Pa

Food plant Blackberry

amelanchier Shad bush *Nepticula amelanchierella* Clem P. E. S. P. 1 p. 84 Pack. Guide 356.

Larva June & July mines a rather broad tract sometimes much contorted with rather irregular edges placed most often toward the base of the leaf & having a rather broad frass line of a dark brown color

Food plant June or Service berry Shad bush  
*Amelanchier canadensis*.

prunum  
apple

? *Nepticula? prunipolia* Clem P. E. S. P. 1 p. 84

Larva late July & early Aug. mines more or less blotchy in the beginning with frass dispersed & toward the end gathered into a rather broad line with the grains distinct. these mines are possibly the work of deparsus larva

Hab Pa

Food plant Wild Cherry  
*Prunus sargentii*.

anguis & snake

*Nepticula anguinella* Clem P. E. S. P. 1 p. 84

Larva late June & early Oct mines a very narrow serpentine tract which is filled or discolored its whole length by blackish excrements

Hab Pa

Food plant Oak.



flat or a broad way  
or series of bid with large bear

*Nepticula platea* Clem P&SP. 1 p 85

Lar "early Oct mines a moderately broad undulating tract with a broad line of dispersed grains of excrement. This mine is much broader than that of the preceding mines." Clem

Hab Pa

Food plant Oak.

rosa loci  
foliam leaf

*Nepticula rosafoliella* Clem P&SP. 1 p 85.

Lar <sup>early Sep</sup> mines a very serpentine tract frequently running around the edge of the leaf including its lobe moderately broad,  
nearly filled with a broad blackish brown frass line the grains  
of which are dispersed or have a wavy arrangement in  
the latter part of the mine Clem

Hab Pa

Foodplant Rose dwarf Wild  
Rosa lucida.

bis tenui  
fascia a band.

*Nepticula bifasciella* Clem P&SP. 1. p. 133 desc. Inv.

Hab Pa Insect taken at light 11 Aug. Clem

Jucus. brownish  
tibia shank

*Nepticula fuscotubella* Clem P&SP. 1 p 133. desc Inv

Inw taken at light 11 Aug Clem

? sagina stuffy or  
patens

*Nepticula saginella* Clem P&SP. 1 p 85. Clem P&SP. 5. p 146. Insect desc?

Larvae mine a serpentine rather short tract which when  
occupied or recent is white & nearly transparent with a narrow  
very black frass line It is frequently bent or curved as the  
larva approaches maturity

both Larva & Imago are very small Food plant Oak.

Hab Pa (Clem) ? Inv. 8C.

\* leaf & mine P&SP.

1728. Md. Oak.

It. This figure resembles the mine of *Nepticula saginella*. somewhat. It was found on Oak

N Saginella counting head as first segment. 3 4th Segment each have a pair of legs 5th segment none, the following six segments are each supplied with a pair of legs whilst  
the 2 last have none thus making 16 legs in all. Clem P&SP. 5 p 146.

*Cutastega*: The insects included in this genus are not leaf miners although they belong to the division microlophoptera. The insects may not belong to the group *Schizina* if not they most probably belong to the Phycetes. The larvae make tubes in which they live & with the grains of their excrement stick on the underside of leaves covering them with a tent or sheet of closely woven silk under which they feed by poking out the pavements of the leaves. They are extremely timid & do not begin to feed or weave until after night fall as the tube is increased in length the silken tent is likewise advanced as it is necessary for the insect to obtain new feeding grounds. Clem P&SP. 5. 8C.

over.



~~Catosteyos~~  
covered in

*timida* *timida*

*Catasleya lineata* Clem. NESP. I. p. 87.

Tube very long cylindrical elongating from the beginning which is almost straight until it attains considerable thickness the open extremity is covered with a web in the middle of which is a gallery lined on each side with spun & the larva passes through it in order to feed. In feeding the larva leaves the web which it has not made of veins cutin. tube found on the under side of dark leaves either just clay - early Sept. about the middle of September the larva abandons its tube to form a cocoon on the surface of the ground. Clem.

Food Plant Oak

Nat Minnesota Clem.

*Catasleya*

Aug 9

Two cases of this insect were found in Sept (Md) on the Tulip Poplar. 2 similar cases were also found on the Grape Aug 9 one on the oak. There was a messy silk mixed with L. casei pl. 73 excrements at the mouth or opening of each case on the leaf June 5 Aug 24 Md to which it was attached but no other web. & the pupa was formed in the case itself. in other respects it resembles the description as above of *C. timida*.

Food Plants Tulip poplar Oak Grape

ace maple

*Catasleya acaciae* Clem NESP. I. 87.

"Larva forms a moderately long slender cylindrical tube at the base of the leaf of Maple (*A. rubrum*) early in July. It is covered with a thin transparent web. Close in advance the tube increases in diameter from the beginning to the end & is placed between two principal veins of the leaf. The web is extended from one vein to another." Clem

Feb 3d

Food plant Maple.

Hamamelis Witch hazle *Catascoa*? *Hamamocella*. Clem NESP. I. 87

"Larva constructs a little short tube of spun along the margin of the leaf during the latter part of Sept. the tube is begun in the angle made by a vein & the midrib of the triangular space between them is covered with a thin web of silk having beneath it the tube Clem

Food plant Witch hazle  
*Hamamelis virginica*



*Opostiga* (Clem) *Hegatalerella* Clem P.E.S.P. I. 131.

Insect very interesting as it is the first extra European member of the group as well as the one ascertain that has been described. (Clem)

none of the larvae belonging to this genus have been described (Clem)

? dars *Iricotaphe* (Clem) *flavocostella* P.E.S.P. I. 131.

*G. flavocostella* Clem P. Acad Nat Sc Phil 1860 p. 162  
Hab Md (Clem)

Ins pl. 20  
fig. 30 Mnd

Ins pl. 77  
fig. 10 coll Ent Soc Phil

*Iricotaphe* *alacrona* Clem P.E.S.P. I. 132 description

Hab Pa (Clem) Ins 17<sup>th</sup> July

? dars  
or pipe  
Brown to blue

*Solenobia* (Walker) *Malshella* Clem P.E.S.P. I. 183. Pack guide 346.

Malshia *Solenobia*

Larva probably Lechenitaceous feeds in a portable case consisting of silk granulated with particles of fine sand (Clem) certainly not a wood miner although it occurs under the bark of Shagbark Hickories & other trees with scaly bark from feeding the larva late in the fall & winter I have supposed that it feeds on the bark but I am certain in Aug & Sept that it was not then therefore conclude that it much prefers there to become a pupa. (Malsh in Clem)

Case & Ins pl. 49  
fig. 10 Mo

Case & Ins pl. 20  
fig. 32 Mo

Case found plentifully on Oak & Pine in the autumn & winter & the larva apparently feeds on some minute Lichens or other substances on the bark itself. The cases found in winter produce moths in the spring. The female is normal wings Clemens states that only the males of the genus *Solenobia* are winged & the females have recently attracted much attention in consequence of the fact that they lay unfertilized fertile eggs (Clem P.E.S.P. I. 183) so that one may breed a species for years without ever seeing a male (Stanley in Pack) found on Oak bark Md (Clem) Md Va (Clem) Food plants probably minute Lichens

? dars  
Pomace, apple etc

*Senaga* (Clem) *principissa* Clem P.E.S.P. I. 130. descrip

Was taken on the 15<sup>th</sup> July in damp wooded places. Clem no maxillary palp & no tongue Clem

? dars  
Lime to serve

*Hypotricha* (Clem) *sericeella* Clem P.E.S.P. I. 130. descrip.

Was taken on vines 18<sup>th</sup> July.  
Hab Pa.

? dars  
margarita a pearl

*Hystodria* Clem P. Acad Nat Sc Phil 1860. 349.

*Hystodria* (Clem) *margaritana* (Clem) P.E.S.P. I. 131. descrip.

Hab Clem. Clem.



2 den' *Sbroisia undulifera* Clem. Stainton 2. 182

note "very different from anything in Europe. & possibly a connecting link. *Scotia* & *Gypothrix*"

*Sbroisia emblemata* Clem. Stainton 2. 182

*Ibroisia* Clem. Proc Acad Natl. c. Phil 1860. 164

*Ibroisia* Clem. *Lepidopoda* Clem. NESP. 4. desc.

Insect when it alights after a flight it walks in a wavy line & turns round several times in a circle (Clem)

Hab Pa. Clem

? *Bryodes arrogans*  
vibrates inflated swollen

*Bryothia* Clem. *Ornithae* Natl. 2. Phil 1. h. desc.

*Bryothia* <sup>(var.)</sup> *imperialis* Clem. PESP. 2. p. 6. des.

Hab Pa. in taken on wing July.

virginicus virgin-like *Bryothia virginicella* Clem. PESP. 2. p. 505. desc Hab. Pa.

*Bryothia*. *Pavonacea*. Clem. Stainton PESP. 2. 182

3 den. p. 69. Scali of McWalt.  
p. 11.

Hab. (McWalt.) "I am disposed to consider this not a *Clemis* but rather one of the *Paralepidina* allies to *Somatis* but I never have observed the strolling habit in any of our species" (Stainton)

\* *Marmara* (Linn) PESP. 2. 7. desc.

Larva much flattened & the segments separated by deep incisions particularly on the sides like the larva of *Lithacolotes*. It has 3 feet & abdominal prolegs & one terminal pair, all very short. It leaves its mine at maturity to weave a white semitransparent cocoon within some crevices of the bark of the tree on which it feeds or upon the ground. The exterior of the cocoon is covered with little protuberances which resemble minute pearls. The Mayo rests with the front part of the body elevated? Clem

salix mellow

*Marmara* Clem. *Salicella* Clem. PESP. 2. 7.

Larva mines the young branches of the Yellow willow principally those that spring from the trunk the mine is extremely long & narrow being only a tract beneath the young & delicate cuticle of the branches sufficiently wide to accommodate the mine already formed in early spring before the buds have all expanded the larva may be caught in April or May. About the middle or 10<sup>th</sup> May the larva will be found banded alternately with red & yellow with 2 black dorsal dashes on the second segment (regarding the head as the first) this is an indication that it has nearly reached maturity & in a day or two it cuts the cuticle & leaves the mine to weave its cocoon? Clem. NESP. 2. 8.

Hab. Pa. mines young branches of Yellow willow

*Glyphypteryx* (Hub) *impigritella* Clem. PESP. 2. 9. desc

Hab. Pa. Insect taken on the wing July.

*Glechria* (Keller) Clem. PESP. 2. 11

"The habits of the larvae are extremely varied feeding upon leaves, young flower buds & young stems & in the interior of grains & seeds. The species that feed in buds & shoots are mostly in the larva state in spring & early summer, those that feed in and upon leaves are met with in summer & autumn. Those that feed on seeds do so in the autumn & winter" Clem

yellow a dust  
Hippoglossum  
impiger diligent  
quicks.

ye earth  
dust a bed.

*Glechia*. The following table of species may facilitate the recognition of species. Some of them included in the table have been described in the Proceedings' Agricultural Services "Phil 1860 p 162.

Fore wings white or yellowish

with no sharp markings in apical cells

1. With an oblique line near tip  
Fore wings white or yellowish with costa white *Migratella*  
Fore wings yellowish fuscous *Gilvolinella*
  2. With a large median patch *Mediuscella*
  3. With discal spots or dots  
With dusted with fuscous nearly to the base *Angustipennella*  
Slightly dusky with few dots *Punstigella*
  4. Without distinct dots wings nearly unicolorous ~ *Cerealella*? <sup>in this not Anacampsis cerealella</sup>  
With sharply marked line in apical cells *Ajicellella*
- Fore wings dark gray or dark brown without rosate hue
- Fore wings with bands
1. Bands transverse  
With 2 white bands and a costal spot *Labriorella*  
With one concave yellow band *Agramonella*  
With one band near the apex doubly curved *Flexarella*  
Front wings apex produced *Mimella*  
Rear wings apex rounded
  2. Band long longitudinally curved white *Longifasciella*  
fore wings with costal spots or dots,  
The spots black *fuscofasciella*  
The spots rather indistinct yellowish *gilvomaculella*  
fore wings discal spots  
Front wings broader than the fore wings *Zhoipunctella*  
Front wings as narrow as fore wings *Kubijinomella*  
Fore wings dark fuscous tinted with yellowish *detessella*  
Fore wings grayish dusky with fuscous
- Fore wings with a rosate hue
- With alternate white & dark brown bands *nososufficiella*  
Without distinct bands *nubidella*

? note what is *Glechia cerealella* now *Anacampsis* (Browne) p. 145.  
Jen. Proc. Acad. Sc. Phil 1860.

162, see under 2 p. 307

*Glechua cereatella* Clem PESP L. 120. & P. Acad Nat Sc Phil 1850. Park guide p 350  
*Anacampsis (Bulavis) cereatella* Hennig. G. P. O. Ag Rep. 1854 p. 67.  
*Bulavis cereatella* { Fitch in N.Y. Ag Soc. 1861 vol 21. p. 513. G. P. O. Ag Rep. 1854 p. 67.  
*cereatella* " obs. 1781 (Bur. 473)  
*(Neopanmaia)* grain moth.

*Glycophagus granarius* Kirby &雪村. Har note? Laverne. Curtis (Harris)  
*Tenea hordeana*

Eggs 60 to 90. placed in single clusters of 20 or more on a single grain  
 Larva when hatched disperse. each one choosing a single grain in which  
 it burrows at the most tender part commonly where the plumbule comes  
 out. it then devours the inside or heart of the grain & when fully grown  
 gnaws a small hole nearly or quite through the hull & sometimes through  
 the chaffy substance

Pupa formed in the grain often after the larva has spun a sort of silken  
 curtain to divide the hollow in one of these partitions the pupa is formed  
 the other containing feces &c

Insect emerges out of the hole already prepared by the larva, the insects of  
 the first or summer brood remain about 3 weeks in the pupa state those  
 of the second brood (North) hibernate in the grain & emerge next summer  
 to deposit their eggs on young ears of growing grain Staffins & others  
 think however that but few eggs are deposited on grain when in  
 the field. Ins. May & Nov. (W. Stob) introduced from Europe

Parasite *Pleromatus* Har. & 02. Food plants Barley Buckwheat Oats Wheat  
 Hab. N.E. Md. Va. (S) Was. D.C. W. Europe Zsch.

of barley contains the precise quantity  
 its body until it is full fed, for if  
 & smaller larva we find that these  
 are still to be consumed according to  
 ruleable is that in the latter case we  
 encounter far larger pellets than we find  
 (Reamer's Staffins) & it is this because  
 we know once Park guide 350

DSVATC  
R. 9195  
III. 12

— where with reddish red small pointed legs & 10  
 — small white wavy like protuberances.

— covered by a few minute  
 hairs the rest being of hairy  
 hair extending to nearly hind  
 wings. Head like with  
 short long & curved processes  
 blacked near the tip 2<sup>nd</sup> joint  
 pale joint very short shiny —  
 with of antennae. Body forewings  
 drawings long narrow & pointed  
 yes more or less spangled with  
 near the base of the forewings  
 some narrow yellowish  
 at tips & entirely surrounded  
 with on the inner margin than  
 length wise when at rest beneath  
 blackish hindmost leg fringed

*Glechua (Tellus) funzionello* I 68/19. Illus

*Glechua corydalis* Poly. Mn. I 69/19

314a

156

*Glechiae*. The following table of species may facilitate the recognition of species. Some of them included in the table have been described in the "Proceedings Acad Nat Sciences" Phil 1860 p 162.

Fore wings white or yellowish

With no sharp markings in apical cells

1. With an oblique line near tip

Fore wings white or yellowish with costa white

*Migratomella*

Fore wings yellowish fuscous

*Grivolumella*

2. With a large median patch

~~~~~ *Mediuscella*

3. With distinct spots or dots

well dusky with fuscous nearly to the base

~~~~~ *Angustiponella*

Slightly dusky with fuscous.

~~~~~ *Punctiferella*

4. Without distinct dots wings nearly unicolorous ~

*Cerealella* ?

1. With sharply marked line in apical cells

~~~~~ *Ajicellinella*

Fore wings dark gray or dark brown without rosaceal hue

Fore wings with bands

*Butalis cerealella* (France)

With 2 white bands and a costal

With the milled corn (grain) loses 40 per cent in weight & 75 per cent in flour." Curtis, 336

with one concave yellow band

with one band near the apex of

hind wings apex produced

Hind wings apex rounded

2. Band long longitudinally on

fore wings with costal spots or a

The spots black.

The spots rather indistinct yellow.

Fore wings decolor spots

Hind wings broader than the fore wings

Hind wings as narrow as

Fore wings dark fuscous

Fore wings grayish dusky

Fore wings with a rosaceal

with alternate white & dark

without distinct bands.

*Angoumois moth. Butalis cerealella.*

Wheat. &c. Indian corn &c.

grain heated for a short time to 190° of Fahrenheit does not lose its germinating power but kills the insects & larvae.

Brisk friction and agitation will also kill these insects 10° Herbig's agitator or Shaker machine invented in France. Fitch Reg. Pat'd. 315. Reg. Pat'd.

- ? note what is *Glechiae cerealella*?

I am for 2 years Sc. Fitch.

162. See margin 2 p. 307

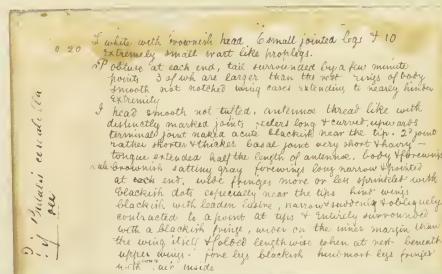
*Gelechia cereella* Clem PES P. 2. 120. & Pr Acad Nat Sc Phil 1850. Pack guide p 350  
*Anacampsis (Salaci)* *cereella* Harris *H. G. P. O. Ag. Rec.* 1854 p. 67.  
*Bataea cereella* Stict. & W. S. Ag Soc 1861 vol 21 p. 513. L. P. J. he 17  
 " 1789 Nov 448  
*Urotaenia modi* gran. moth.  
*Ypsolopha granella* Kirby Verreaux Har note ? Lavarva. Curtis (Harris)  
 Since hordei

Eggs 60 to 90, placed in single clusters of 20 or more on a single grain when hatched disperse, each one choosing a single grain in which it burrows at the most tender part, commonly where the plume comes out, it then devours the inside or heart of the grain & when fully grown gnaws a small hole nearly or quite through the hull & sometimes through the chaffy substance. Pupa formed in the grain often after the larva has spun a sort of silken curtain to divide the hollow in one of these partitions the pupa is formed the other containing feces &c.

Pupa emerges out of the hole already prepared by the larva, the insects of the first or summer brood remain about 3 weeks in the pupa state those of the second brood (North) hibernate in the grain & emerge next summer to deposit their eggs on young ears of growing grain. Ruffin & others think however that but few eggs are deposited on grain when in the field. Ins. May & Nov. (W. S. Stict.) introduced from Europe

Parasite *Pteromalus* Har. 402. Food plants Barley Buckwheat Oats Maine  
 Wheat & grain in general.  
 Hab. W. N. Wild Va. (H) Mass Har. Macayu Stict.

*Gelechia cereella* "a grain of wheat or of barley contains the precise quantity of food necessary to nourish the larva from its birth until it is full fed, for if we open a grain inhabited by a younger & smaller larva we find that there is more or less of the substance of the grain still to be consumed according to the size of the larva but what is remarkable is that in the latter case we find at least as much & probably more excrement than larger pellets than we find in a grain tenanted by an older larva" (Reaumur Stict.) "it is thus obvious to eat its excrement over once & perhaps more than once" Pack guide 350



*Gelechia (Telleria) panjorensis* J 68/19 Illus

*Gelechia circidis* Poly Mn. J CIV/19

314a

156



- Glechiae* <sup>4</sup> *nigra* *nigra* Clem Stainton PESP 2. 181. resembling somewhat European }  
*Glechiae* ? *nubecellata* Clem Stainton PESP 2. 182 allied to *G. nubecella*, St. Europe. }
- Glechiae* *detrisella* Clem Stainton PESP 2. 183 allied to European *G. affinis* which feeds on man, etc.
- Glechiae* *zelleri* *nigratimella* Clem PESP 2. 11. desc. ♀ Clem PESP var. desc.  
 Hab Pa. ba Clem
- 
- medium the middle  
 fuscous a band
- Glechiae* *mediofuscella* Clem PESP 2. 11. desc.  
 Hab Pa.
- 
- fuscous brown  
 punctum apicalum
- Glechiae* *fuscofuscella* Clem PESP 2. p 12. desc.  
 Hab Pa.
- 
- glutinous flesh color  
 macula spot
- Glechiae* *glaucomaulella* Clem PESP 2. p 12. desc.  
 Hab Pa.
- 
- longus long  
 fascia band
- Glechiae* *longifascella* Clem PESP 2. p 12. desc.  
 Hab Pa.
- ? Ins p 7<sup>th</sup> 7<sup>th</sup> coll coll Soc Phil  
 note. This figure differs somewhat from Clemens description  
 the yellowish streak not covering one third & no mention  
 made of the second yellowish mark.
- 
- Glechiae* *labradoricella* Clem PESP 2. p 12. desc. 1 PESP 2. p. 417  
 Labrador *Glechiae*  
 Hab Labrador
- 
- angustus narrow
- Glechiae* *angustipendula* Clem PESP 2. 119. desc.  
 Hab Pa.
- 
- punctum apicalum  
 sensu leu
- Glechiae* *punctigeraella* Clem PESP 2. 119. desc.  
 Hab Pa.
- 
- glutinous flesh color  
 linea line
- Glechiae* *glaucostinella* Clem PESP 2. 119. desc.  
 Hab Pa.
- 
- apex apicis the two linear line
- Glechiae* *apiciclinella* Clem PESP 2. 120. desc.  
 Hab Pa.
- 
- fulvis rufus or brown  
 gibberula fungi
- Glechiae* *fuligineimbricella* Clem PESP 2. 120. desc.  
 Hab Pa.
- 
- brunnea macta
- Glechiae* *brunneella* Clem PESP 2. 116. var.  
 Hab Labrador
- 
- ornatus decorated  
 gibberula fungi
- Glechiae* ? *ornatissimbricella* Clem PESP 2. p 420.  
 Found in winter under the loose bark of trees (Malte) Ins p 68  
 Hab Illinois Pg C. coll of Mr  
 Walsh Illinois

"differs from the *Glechiae* in the structure of the labial palps the second joint of which is almost brush like beneath. The abdomen is somewhat flattened above." Clem PESP 2. 420

*Gleochia crenicollis*. Riley Mus.

L green, ringed or banded with white.  
found by Mr C Dodge on the { Judas tree or Red bud,  
Ind. July. { *Cercis canadensis*.

Kab Va. (CRD) Mo. (Riley)

Ins. pl 104  
fig 19 CRD.

*Glechoma roseocolor* Stev. var. *roseocolor* Clem. Stanton 1963 p. 2, p. 131. alike to European *Glechoma* (?)  
Leaves opposite or whorled. Fruit Parcels of Sumach. Pack quite 350

falla gall  
genius born on board

*Electria gallaegeonitella* Clem. 10 S.P. 2, p. 420 desc. ♂ Clem P.E.S.P. 3, p. 506, desc.  
 Am Ent 1, 112 fig. of var.  
 Insect two brood from <sup>Black</sup> oak apple galls of *Cynips*  
*quercus spongifica* (Celon Sacken) by Mr. Walsh & Hlin  
 parasite Bracon Am Ent 1, 110.  
 H. C. Hlin. (Walsh) Va (Clem) (♀ & other galls. Am Ent 1, 110.)

*fungas. vero to devour* *Selectus funginella* Clem PESP 3. p 507. Park. Guide 356

Wat Illin. Clem.

note although the figure differs from Clemens' description yet the specimen was sent under the name of *S. fungicola* by Mr. Walsh perhaps it is a var.

*Salix salicis* of the willow  
fungus a fungus or toads web

*Glechoma Saccifungicella* Lem P.E.P. 3. 500. desc  
Larva mines the gall "brassicoides"  
July 3-12

note "possibly as the character of the markings resembles those of *S. funginotata*, it may be the same species." G. H. Miller.

Heat Hill. (Clem,

## Gall on Willow.

agronomy a plant

*Geleotria cymosimella* Clem Coll in cabinet Ent Soc Phil & Swainson's collections PESP  
2-1-131

Glechim

? In pl 97  
fig 13. Mo. Riley

*galla* gall  
*solidago* goldenrod (plant)

<sup>1)</sup> *Glechoma gallae-solidaginis* Riley 1<sup>st</sup> Rep. Mo. p. 173. pl. 2 fig. 12. Ann Ent. 2. 212  
*Solidago gall. Moth*

In. "winter over & may be seen flying in May. The female moth deposits an egg either in the terminal bud or at the side of the stalk just below it on young plants of Golden Rod. the worm hatching from the egg works into the stalk & causes it to swell by gnawing. This induces the sections to split, by the middle of July both gall & maker have attained full size & then cuts a perfectly round passage entirely through the wall of the gall at its upper end through which the perfect larva may escape. In Aug to Oct. - this gall is placed near the ground, about 6 inches from it. Riley

62

*Hectocera*. Vlem. Pis Pl. 2, 114. desc.

Gall on Golden Rod

The perfect insects bear some resemblance to those of the genus *Glechida*,  
they are sluggish in their motions & slight &c.

*Holcoecetes (ileum) chalcognathus* Clem. Doc. PvB.P. 2.120

Hab Na (dim) Sweet appears to be very variable. Clew



*Holcocera glandulicella*. Riley 4<sup>th</sup> Rep. 144. Clem Ent. Vol 4 p 18

L feeds in leaves that have previously been injured by *Balanus* or *coccis* & upon the refuse in the autumn winter or spring Ins pl CXVII. fig 4

Acorns (when injured by other insects) see also pl 20 fig 5.

*purple*  
*coma hair*

*Holcocera purpurascens* Clem PESP 2. 122 desc.

Hab Pa

*Holcocera gibbosella* Clem PESP 2. p 122 desc.

Hab Pa

acum fructu

*modestus modestus*

*Holcocera modestella* Clem PESP 2. p 122 desc.

Hab Pa

ERIZOS. unique single  
strob. home

*Enicostoma*? Stephens desc. Clem PESP 2. p 125

*Enicostoma*? Packardella. Clem PESP 2. p 125  
Packard's Enicostoma

Bpxvs. short  
lvs. fine

miss one junction point or two

*Sorachyloma* (Clem) *unipunctella* Clem PESP 2. 126 desc.

Ins pl 77  
fig 10. coll Ent Soc Phil

Hab Ma?

? derm

*Pigritia* Clem Sp ideal Nat Sc. Phil 1860. 172. 1

affinis pale coma hair

*Pigritia* (Clem) *ochrocomella*. PESP 2. p. 126

Hab?

atius broad  
capit. head

*Pigritia ochreella* Clem PESP 2. 172. Hab

*Pigritia latecapitella* Clem Stanton PESP 2. 132.

3 three on bracts  
irregular bands

*Pigritia* *Homosetia*. Clem PESP 2. 127. description

note the 3 following insects are placed in Clem. under this group but mark 3 instead of Homosetia possible may be *Streps* & *Chauliodes*.  
for convenience they will be named ?Homosetia in list

? *tricinctiguttella* Clem PESP 2. 127. desc.  
? *Homosetia*.

costa. outer edge of wing  
signum a mark!

? *costisignella* Clem PESP 2. 127. desc.

canus gray  
cavus green

*Chauliodes*? (Freitch) Clem PESP 2. p 127. desc

*Chauliodess*? *canicinctella* Clem PESP 2. p 127. desc.

Walsh  
Amorphoph (plant.)

*Malshia* (Clem) This genus is apparently related to the genera *Laverna* &  
*Chysochista* & partakes of the characters of each of them Desc Clem PESP 2. p 418

*Malshia amorphella* Clem PESP 2. 419. Des. Riley 2<sup>d</sup> Rep. 182

False Indigo gall moth. Riley

Larva burrows in a gall formed on the stem of *Amorphoph* a pruriosa fig 21. coll of Walsh

it undergoes its transformations within it Clem False Indigo.

Hab Pa

Myth name  
Xerxes gold  
Xanthippe work

*Laverna*, sp. n. incl. Clem PESP 2. 418

*Chysochista* " " "



myth name  
described by Bde., for one  
of the populations

*Hamadryas* Clem. desc. PESP 2 p. 422 "appears to be congeneric with a portion  
of the genus *Gelidina*" Clem  
*Hamadryas Bassettella* Clem PESP 2. 423.

*Bassettella Hamadryas*

Larva feeds on a gall found on Oak. These galls are  
formed on the smaller branches 3 or 4 being aggregated  
one globular yellowish brown, shiny hair. (Clem)

Ins pl 77  
fig 39. coll Ent Soc  
Pa.

Hab. Waterbury Count. Clem.

Oak Gall.

? den.

*Cycloplasis* Clem. Hoc. PESP 2. 424

"The mine of the larva is like that of *Elachista* beginning as a thread  
like mine towards the latter part of its larval life it enlarged into a blotch  
when it has arrived at maturity, it cuts a perfectly circular disk from the  
upper cuticle of the leaf, folds it along its diameter leaving the edges of the  
circumference, when completed the larva enclosed in its semicircular cocoon  
lets itself fall to the ground where it attaches the cocoon to some adjacent  
object." (Clem)

panicum gran.  
folum leaf

*Cycloplasis* (Clem) *principiella* Clem PESP 2. 424 desc.

Lar mines the leaf of *Panicum clandestinum* early July Pa. The  
mine begins near the base of the leaf as a minute thread like  
line & runs to the tip thence returns along the side to the  
middle of it when it is irregularly enlarged by the larva

Hab. Pa. Clem  
mines. Panic Grass.

*Elachista* <sup>fring</sup> Clem PESP 2. 425.

*cosmicta*. Clem S' Read Nat Sc. 1860. p 9. & 12. 172.

*Elachista brachelytrifasciella* Clem PESP 2. 425 desc.

Lar. mines leaf of *Brachelytrum aristatum* early July Pa.

mine at the beginning is thread like but afterwards becomes a blotch

Lar spins a slight web in which the larva attaches its anal legs & pupa  
ins. appeared 9th (Pa.)

Hab. Pa. mines fol *Brachelytrum aristatum*

*orichalceum* mountain trees *Elachista* *orichalceella* Clem PESP 2. 430. desc. Hab Pa. Pack guide 352.

2 or 3 very thick  
sepals horn

*Dasydera* (Clem) *Newmannella*. Clem PESP 2. p. 428. (desc. Gen. Disp.)

Newmann. Dasydera

Hab. Pa. (Clem) Ma (S'G)

Ins pl 58  
fig 16. Ma. Ins pl 77  
fig 12 coll. Ent Soc Phil.

Wilson  
brevis short  
wings stigma

*Wilsonia* Clem *brevivittella* Clem PESP 2 p. 429. (desc. of genus S'G.)

Hab. Pa.

? den.

*Salix salicis* unlow  
homum apple or fruit

*Balachetra* Stainton. Clem PESP 5. 142. desc. "mine narrow especially near ours which  
are sharply tufted with a tuft near the base of  
the costa!" Pack. guide 352.

*Balachetra* *salicifomella* Clem PESP 5. p 143. desc. Pack guide 352.

several

Ins bred from *Tenthredinidae* gall *Salix pomiformis* & a  
single one fm *Cecidomyiidae* gall *S. rhodoides* Walsh

Ins prob hibernates normally in the larva state

? Ins. fe 69  
fig 10. coll. of Walsh

Hab. Illin (Walsh)

fm galls on *Salix cordata*.



add and Genera by Stanton. P. & S.P. 130  
not otherwise mentioned in P. & S.P. by Clement

punctum point or dot  
penna plume or feather

*Anorthosia punctipennella* see Stanton P. & S.P. 2 p. 131.

Ins. pl. 68 coll. of Mc Walsh H.  
fig. 12

"Lab Mc Walsh" allied to *Clerodora*? do not feel confident that  
it is generically distinct (Stanton)

Ins. pl. 71 coll. of Mc Walsh H.  
fig. 11 Helen

*argentum silver*  
*cinctus surrounded or encircled* *callima* *argenticinctella* coll Ent Soc phot.

Ins. pl. 74  
fig. 8. coll Ent Soc H. C. Clem.

*Εὐκαρπίας*. <sup>Εὐκαρπίας</sup> Stanton P. & S.P. 2 p. 130.  
Εὐκαρπίας a curl of hair

" larger sp in the (am (Europe) larva agree in structure with Chile univ of ♂ more or less  
fasciculated men 2. 412

*Ithomis tesquella* Clem. Stanton P. & S.P. 2 p. 132.

? odd bw to gette shore  
tesqua rough in thirty places. mud grounds

*Lamproma capitella* Europa Nutt 2. 412

Caput  
heads.

Larva somewhat resembles larva of *Cassus lychnioides*  
& burrows into the young shoots of the Currant

Jan 16 Glucidio

*Scientific name*

L elongated form 9 narrow wings like *Homoneuridae*.  
Wings in one species are irregularly cleft into  
narrow feathered rays; fore wings having 2, 3, 5 or 6  
of such rays & the hind wings 3 or 6 such rays which  
are beautifully feathered on each edge. The wings  
are carried horizontally or slightly curved (long  
wings) & placed close together, protruding slightly  
forward. The fore wings are about 2/3 as long  
as the hind wings with one intermediate & 1/2  
apical & subterminal stings. (S. C. Johnson - June #103)

S somewhat resembles *Archaea* (but very small) being  
slender, the other sprouting with long hair of winter.  
P variable either naked or clothed in a coarse or  
elongate oval, conical & hairy suspended by a  
thread or attached by hooks at posterior extremity  
of body to a layer of silk on the leaves.

*Platophorus perseae* Schultes Riley 3<sup>a</sup> Rep. 65.

spins webs fastening the leaves on extremity of short twigs

In extremely active

I watch as soon as the leaves begin to expand (first for about 3 weeks) then  
fastens itself by the hind legs to the underside of some leaf or other object  
After transforms into the pupa state. With the lower part of the three or  
four terminal jaws forced to a little side previously spun by the worm  
hangs at a slant of 40 degrees. The pupae appear to take the color of the object  
they are attached to being green if on leaves & brown if on stalk. Riley 3<sup>a</sup> Rep. 67

The pupa state lasts about one week  
Swainson says that prob. there is only one brood annually & suggests that  
the moths that appear in June & July may deposit their eggs near the base of the  
tree from which the next year's broods will spring. That it remains quiescent until spring.

- Platophorus perseae* Schultes Riley
- 0.50 1. 16 pairs almost cylindrical pale green 16 segments, rather  
deep transverse striations. 2 rows of elevated white  
dots along the back & one on each side spot in a  
row on each segment below spot an elevated white dot  
at base. Head & tail with similar white dots
  - 0.25 2. Same on head & abdomen. Head with 2 large  
brownish horns, these drop to slender conical pointed  
bristles at head. Two long compressed horns side by side  
falling upward from mid back below covering the pale  
green; with deep green stripe along middle of back yellow,  
yellow on margin of head & middle yellow, or pale  
greenish with black stripes along the back.
  - 0.85 3. Agile striped in median. Large yellow, long wings  
with 3 white spots & several others of white to black  
outline white with blackish spot in middle & another  
in apex of inner margin.

325

Alucitidae <sup>Search</sup> Boswood. 4.3 yrs. up. Feather winged moths Har

*Cyclotis stictica* unguis reticulatus sp.

"The diploids carry *Psychedelic*, later & the Lepidopterous genes *Pterophorins* are assumed to be the connecting links between the Diploids & Lepidoptera" page 2, 323

*Pterophorus perselidactylus* Fitch 1<sup>st</sup> Rep. 149. Morris 3<sup>rd</sup> Rep. 1<sup>st</sup> Part 137. <sup>Fig. 11</sup> <sup>Spec.</sup> <sup>var</sup> <sup>pt. 64</sup> <sup>1911</sup> <sup>Spec.</sup>  
Gartered or Grape vine plume moth. Fitch 1<sup>st</sup> Rep. 149. Morris 3<sup>rd</sup> Rep. 1<sup>st</sup> Part 137. <sup>Fig. 11</sup> <sup>Spec.</sup> <sup>var</sup> <sup>pt. 64</sup> <sup>1911</sup> <sup>Spec.</sup>  
Fitch 1<sup>st</sup> Rep. 149. Morris 3<sup>rd</sup> Rep. 1<sup>st</sup> Part 137. <sup>Fig. 11</sup> <sup>Spec.</sup> <sup>var</sup> <sup>pt. 64</sup> <sup>1911</sup> <sup>Spec.</sup>

Larva hives itself in a hollow ball or cell made of leaves or woven together. See pl. 97  
 Fig. 16 coll. of M. Riley  
 Missouri

*Pterophorus parseladactylus* Packard 357  
Saunders. Rep. Entom. Survey of Ontario 1870 p 102

Sur. about half an inch in length pale green with greenish yellow head  
already two baby is a double dorsal palpal line whitish tubercles from  
which proceed very long uneven hairs. The body is also covered with short  
white hairs giving it a frosty appearance. It feeds upon the young leaves of  
the grape bush its self in a hollow ball made of the leaves. Brown  
together by threads pale round one of the corners also of the bubbles  
in its hairs of remaining attached by the tail to the plant on which it feeds.

*Pterophorini* (Europe) Crepuscular in habit flying over low plants. Larvae somewhat resemble those of the *Cecididae* being clothed although sparsely with rather long hairs. They have 16 feet & are very inactive the rays of the wing are composed of the veins without any of the intercrossing membranes which occurs in the fringes in repose the *Pterophorini* have the habit of folding their wings so as to appear to consist of only a single broad very broad 2. 414  
{ Lar when about to change into chrysalides fasten themselves by the hind feet & fly a loop over the back like the *Lycenans*. After 370.

*carduus thistle*  
*pauciflorus finger*

*Pterophorinae* *cardiaciactylus* Riley *Rip. Minn.* 1. p. 80, <sup>no</sup> 2, fig. 18-14 *Pack. Guide* 337.  
*Thistle Plume*. Riley *In* <sup>pe 84</sup> *fig. 12*, *coll. of M* <sup>1912</sup> *Schuster Can*  
 Eggs deposited either at irregular intervals in the same place or hatched *In* <sup>pe 53</sup> *fig. 12* *Md*  
<sup>but irregularly</sup>  
 Larva several in one web draw the heads of thistles together by  
 means of silk threads with some of the leaves dead. May (Munro) *In* <sup>pe 97</sup> *fig. 5 coll. of*  
 Pupae formed end of May (Munro) within the burrows the larvae inhale  
 insects emerge in about a week. *M. Riley* *Missouri*

*Pterophorus*

Hat Texas Ins fm Texas sent by Dr Leucocinium

I no pl 88  
fig 5. Texas

*Pteropinnaeus*?

*Prorectaria*. War Cor 323 fig 46.

Larva inhabits a mucous case.

Oct nov. found abundantly on fences crawling about

"Can the larva live on sandy particles on fence or  
on lichen?" War. food plant possibly Lichens ✓  
length of  $\frac{1}{2}$  to  $\frac{1}{4}$  inch form cylindrical or fusiform anterior  
end curving downward a little that are opening beneath  
the other end is closed by bevelled lips meeting in a point  
capable of being opened when the larva wishes to feed the  
extremities (War) description of case agrees with that of  
Note placed by Packard in Pterophoridae? convex auriculae - marshals

*Pterophorus cenicriodactylus* Fitch 1<sup>st</sup> Rep. 144. Fitch To N.Y. Ag Soc. Vol 16. 1853. p. 848  
var. *nebulosus* *longus* *lateralis* *plumbeus* *obsoletus* *plumbeus* Morris 54

July upon broken twigs

In expands .0. 60. It tawny brown somewhat tinged with coppery red on fore wings a white spot towards the base of each lobe of each lobe a transverse white streak towards the base of each lobe towards spot & apex fringe whitish with black spot in the middle & a larger black spot at apex of margin &c

In fig. 51 (Md) fig 1. beautiful

Hab. Md. N.Y.

*marginalis* *marginalis* *Pterophorus marginalioides* Fitch 1<sup>st</sup> Rep. 144 & To N.Y. Ag Soc. 1853 Vol 16 p. 848.  
var. *fuscus* *fuscus* *borealis* *plumbeus*

Fore wings variegated with white veins like shot, tawny brown at outer venous apical angles small brown spot at beyond mid of inner margin - hind wings pale tawny yellow. 1. 00

In, taken (Md) latter part of June on weeds along bordering of meadow. hairy neck tawny brown fore wings variegated with white veins like spot. 1. 00

In fig. 51 (Md)  
fig 2. Ma?

*Pterophorus nebulosodactylus* Fitch 1<sup>st</sup> Rep. 145 & To N.Y. Ag Soc. 1853. Vol 16. p. 849.  
*Freckled plume*

*maculosa* a spot or freckle  
var. *longus*

Expands 0. 90. milky white fore wings sprinkled with blackish dots which form a black spot at the commencement of the cell & a dot half way from this to the base 0. 75 Aug (Md)

? In fig. 20, 918

Hab. N.Y. Md.

*Pterophorus cenicriodactylus* Fitch 1<sup>st</sup> Rep. 144 In N.Y. Ag Soc. Vol 16. 1853. p. 848  
ashy, greyish

July (Md) in yards near dwellings 0. 75 expand

Hab. N.Y.

0. 75 dark grey, fore wings sprinkled with blackish brown along shaggy tawny inner margin 0. 80

*lobata* *a lobata* *Pterophorus lobidactylus* Fitch 1<sup>st</sup> Rep. 143. & To N.Y. Ag Soc. Vol 16. 1853. p. 848  
*Lobe winged plume*

Milky white wings blackish ash grey towards base, freckled with tawny dots 0. 80 after wings tips brownish black in old age tawny yellow band ends in white on the outer margin 0. 80

Hab. N.Y.

extends across outer lobe near the base & a white stripe apex of outer margin &c

*Pterophorus nebulodactylus* Fitch 1<sup>st</sup> Rep. 145 & To N.Y. Ag Soc. 1853. Vol 16. p. 849.  
*Cloudy plume* most common sp. (Md) mid June to mid July. near dwellings

& attracted by camps.

In, milky white fore wings clouded with pale tawny brown alar expanse 1 inch distichous marks the pale tawny brown surface of fore wings contrast with the whiteness of the upper surface

creta chalk

*Pterophorus cretidioides* Fitch 1<sup>st</sup> Rep. 145 & To N.Y. Ag Soc. 1853. Vol 16. p. 849  
*Chalky plume*.

with white tinged with tawny yellow & has a small brownish black spot at the cell & a brown streak on the outer margin beyond the black spot (expands 1 inch) with traces of an oblique brown band

J. July (Md) Forests

prop name

*Alucita* Scop. Testwood Syn. p. 115. "all the wings lobed"

? *Alucita*

Hab Colorado 2 Insect taken in Colorado by Mr Ridings Phil.

Owings 3 Larva of European <sup>a polyphemus</sup> not hairy spins a cocoon & feeds on unopened buds of honey suckle

In fig. 72  
17 18, coll Ent Soc  
Phil

*Alucita* (Europe) frequents gardens & hedges, authoress sitting with its beautiful fan like wings  
Larvae said to live in buds & undergo their transformation in them

Mass 2. 103

& authoress cocoon after 51!

*Anarsia Zeller* Dr Acad Nat Scopie 1869/70

fore wings ovate lanceolate with an apiculus  
spur on the outer <sup>inner</sup> towards the end of the  
costal nervure. The first two costal marginal  
veins descend obliquely rather narrow <sup>close</sup>  
to a short nervure.

Lateral palpi second pair thick with  
a very blunt <sup>sharp</sup> tuft of hair <sup>near the tip</sup> fore tongue.  
In front third joint broadly <sup>slightly</sup> dilated.  
Spotted as long as the veins  
maxillary palpi short & distinct.

*Anarsia prunella* Dr Acad Nat Scopie 1869/70

grey & pale pal.

Lateral palpi ♀

whole gray at

gray dotted with

dark greyous

fore wings gray

brown with a

along the costal

middle nervure.

on the median

fold base or to

cilia fuzzy?

gray cilia gray tinted with yellowish

Silva taken June 16 fall gray &  
about to pupate form on the heads of  
a few - head black body brown  
reddish brown with several papillae  
each giving rise to a hair. Youth pale  
brown patches on the sides of 3d & 4th  
segments shells transparent pale  
black. The specimen had secured itself  
under a turned up portion of the lobax  
the trunk the cocoon was exactly  
as the tail of the pupa is attached to  
a little ball of silk pupa oval  
and short conical smooth color dark  
reddish brown are common.

108/3 ?

Practical sugar fr  
gations & report to the office upon the damage

"The Rev. G. Gudday (England) described an insect  
name of *Draecaea sacchari*, being by far the one  
which is most exempt from this dreadful pest  
Indian islands destroys whole acres the larvae  
however, evidently identical with *Phalaeca sacchari*

*Anarsia Zeller prunella* Clem Ag Monthly  
" " *Circatella (Euc.) Zeller* } 1872-305-8  
with figure (in Poole's tway) Rep. 1872, 122

4  
I 12.

*Paragrapta* <sup>♂</sup> *decorata*

§ CXXV. 8. Tentaculatae

I heard of a similar worm in the  
old not procure one to compare with the  
are also said to be found in the sugar  
Manatic, but are not very numerous.

into the cane in the manner as figured but

how it can be known

Practical sugar fr

*Phalaeca Sacchari* Rev. G. Gudday

St Vincent memoir. on much infest sugar  
can. Nat. Sugarm in Jamaica 1. Govt 1855  
Bona Moth is "by far the most destructive &  
common enemy to the sugar can. which is  
never excepted from this pest. The horncorn  
causes the greatest injury to the cane after  
a rapid growth which is followed by a spell  
of dry weather. Is indigenous to Jamaica  
or at least "now and nearly known to  
sugar cane." The system of braching &  
keeping the cane clean is the best  
method as well to prevent the depredations

of the horncorn as to improve the juice  
trade is the removal of all the loose trash from  
the cane stalks.

Calyptula yellowish-spotted with faint black  
dots. In a slight degree hairy  
indeed, a small white moth colored moth  
venued with darker line. I saw only  
the under wing are pale yellow & green  
(the insect given by the Queen memoria of Paris  
as the true Draecaea sacchari is more of  
a grub or stone color.) 74

List of specimens named & figured but not placed.

wall  
dairies along or near town  
*Ocinaea* (Trotter)

Gramineae

*Urgyopteris* (?)

Walsh Po Ent 2. 95

L. bores into unexpanded flower buds especially of manroes till nothing  
is left of them but a mere shell

Anarsia

rapidos flexilis *Campylotrama* <sup>subsp.</sup> *fluvialis*? coll. of Mr. Sanborn.

? Flavellatae steeped in water  
? Paper drawing or litter

Larva feeds on *Ampelopsis quinquefolia* Sant. Ins pe 48  
or new

Fig 16 coll. of Mr  
Sanborn Man

Hab. Mass (Sanborn) Can. Saunders

Gramineae

? dars.  
*fungorum* (Trotter)

*Chaetophora* ? *Fungorum* J. G. K. Am. Ent. Soc. 2. p. 210. Jul 3 fig 74

Ins pe 64  
315. Md. 26.

Hab. Atlantic coast. (G. K.) Ma (S. G.)

Ins pe 97  
fig 36. fum G. K. fig.

rapidoa obliqua  
or a slanting direction

*Garcinia* <sup>subsp.</sup> *boreata*

homae. moving to the north

Ins. Sp. fum N. Hamp. coll. of Mr. Sanborn (Man.)

Hab. N. H. (Sanborn).

Ins pe 94  
Fig 3. coll. of Mr. Sanborn  
N.H.

? dars.

*Cindaphria bicoloralis* Guen?

sector two colored

Hab. Ma.

Ins pe 20  
Fig 18. Ma Sep. Sept 11. Mac.

(Rev<sup>o</sup>) Convoluta

*Sciraea* ? *sacchari* Gaeding Westwood. vol 2 p. 411. Gaeding Trans Soc Arts vol 46. p. 143.  
*Phalaena saccharis* Fab Ent Spp. vol 3. part 2. p. 238. Sugar cane borer

Saccharum i  
of the sugar cane

Larva burrows into the centre of the stems occasionally destroying whole acres. The larva figured was sent from Louisiana & described as very destructive to the cane in that region. The insect figured was presented by M. Guerin Menville of Paris. who received it from the Mauritius.

Lar. pe 4  
Fig 12. La.

Ins pe 15  
Fig 11. Mauritius

Hab. La.

Mauritius West Indies food plant- Sugar cane  
belongs near Crambus (West.)?

?

*Diatreca* ?

Larva very destructive to maize in low lands (SC) it bores into the stalk generally & is sometimes found in the ear

Fig 2.

Hab. S.C. (S. G.)

Food plant Maize

(162)

*Cyprinodon macularius* in March 1870  
 Hatch Po Bay Soc Nat His  
 IX. 300  
 Am 1st VBot L. 205

Larva has ciliated lateral appendages

Little plum moth hatch ♀ Riley. M. S. A. M. Soc.  
 destroyed by *Sygalpus cancellatus* 1870  
 egg ♂ Germanus prunariae

? 150 twice  
ov eye or face? ?  
fables mouthless  
for not it is related upon

*Dryops* (Gün.) *futilis* ♂ G.H.R. Pr Am Ent Soc. 2 p. 304 pl. 3 fig. 73 ♂

In pl. 97  
fig. 34 Fla., G.H.R. fig.

Cat Fla. (G.H.R.)

*Glyptodes* aff. of British Museum

In pl. 56  
fig. 7. Fla.

Cat Fla. (G.H.R.)

*Lithacodia* (Gün.) *bellicula* Hüb. Gr.

In pl. 104  
fig. 24 coll. of M. Norton  
from Canada

Ind. not uncommon on borders of streams & ponds July London Can.  
Saunders.

Noct. agau

*Lipsothrix* *albolineata* G.H.R. To A.E.S. 1. p. 28. pl. 2 fig. 22.

albolineata  
white lined

*Opalia funeraria* (Fabricius) Po Ent. 2/79 European sp.  
L. feeds on interior of plums in England

In pl. 90  
fig. 15. G.H.R. fig.

1000 a lot  
Popos having

2 *Lophocera* (Curtis) *Goniocidalia* *furciferata* Pack?

"The males of this group are distinguished by their hind wings being furnished with a small lobe giving them the appearance of possessing an extra pair of wings." Pack 2. p. 397 & in Ent. 1. 102.

*Semiasia* (Stephens)  
*prunivora* Walsh 1st Rep. Illus 1868. p. 98 pl. 1 fig. 3  
Plum moth.

157/108

Ind. found fm. Black Knot on plum trees from plum  
fruit - fm gall (ulmaceae) on elm & gall on leaf of red Oak.  
Pupa formed in a cocoon of an elongate oval shape above ground

In pl. 97  
fig. 2. coll. of  
M. Riley Mo.

see also above  
*Opalia funeraria*.

found in Plum fruit & Black Knot. Galls on elm & red Oak.  
(Galls, Quercus frondosa, Hawa, Crataegus & Apples. Riley 3d Rep. 25.  
This insect is "closely allied to the European species *S. janthinana*, another species  
*Semiasia* meekerana of Europe is supposed to feed on the inner tegument of the bark  
of Cherry & Apple trees & occasionally Laurel.

(See Agau) "doubtful as to whether it injures the plums" (W. plch.)

or if poss solid  
Agau may  
hybrid or mongrel.  
(See Agau)

? x *Stenopteryx* ? *hybridalis* aff. of Brit. museum.  
or *Stenopteryx*. Hüb.

*Nemophila* - *Noctuella* Sp.  
Cat Md.

In pl. 50  
fig. 18. Mo. June-July.

E doris  
Doris a term of endearment  
or the subject of the eye

*Thelocera* *pupula*. Zeller?

In pl. 57  
fig. 24 Mo.

In pl. 77  
fig. 1. coll. Ent. Soc. Phil.

Cat Md. Pa.

*Synania* *zenobia* Crane. Am Ent. 1 Bot. 2/340

In taken by Prof. H. S. Sheldon at Preswick College.  
Glasgow, Scotland. Am Ent.

(163)



Larvae. Figured but not fully identified or named

Note where the perfect insect is also figured in a later plate. It is distinguished by having a dark line under the number & figure of the plate on which the image can be found. -

Plate 2.

Lar. found on Oak Sep. Md. (prob Catocala)

Lar. pl. 2  
fig. 8. Md.

Lar feeds on Oak Sep. Md. (rare)

Lar. pl. 2  
fig. 10. Md.

Lar feeds on Gum? Sep. Md.

Lar. pl. 2  
fig. 11. Md.

Lar feeds on Pine Oct. Md.

Lar. pl. 2  
fig. 12. Md.

Larva feeds on Oak Sep. Md. (rare)  
Ins. - appeared May.

Lar. pl. 2  
fig. 15. Md.  
Ins. pl. 64  
fig. 16. May.

Larva found on Oak Sep. Md. (not very rare)

Lar. pl. 2  
fig. 17. Md.

Plate IV.

Larva Oak Gc. Sep.

Lar. pl. 4  
fig. 7. Md.

Larva feeds on Oak Oct (Md) (common)  
prob Notodonta. (Riley)

Lar. pl. 4  
fig. 8. Md.

Larva feeds on Cabbage Sep. Md. -

Lar. pl. 4  
fig. 11. Md.

Larva found feeding on Grass & Clover Sep & Oct. Md.  
probably a bright variety of Leucania extranea or some Leucania.  
see pl. 98 fig. 12.

Lar. pl. 4  
fig. 13. Md.

Plate VI.

Larva found feeding on foliage of Cotton Oct. Goo. (Rare)  
T. & A. Rep. 1855 p. 103.

Lar. pl. 6  
fig. 12. Goo.

Larva webs up in leaf of Cotton Sep. Georgia  
resembles Tortrix rosaceana. see p. 138. Plate 16, fig. 4 & 5.

Lar. pl. 6  
fig. 14. Goo.  
(168 page)



Plate IX

Larva feeds on Oak July. (Md.) (not common)

The bristles dilated at the end resemble somewhat Urotrycta acris var Americana of Harris' Correspondence but my figures have only 4 pair whilst Har's fig has 7 or 14 pair & not more than one pair open.

Sample 9  
Fig 6. Md.

Larva feeds on Apple June (Md) (not common)

Lar. No 9  
Fig 75. Md.

Larva found on Oak June (Md) (rare)

Sample 9  
Fig 76. Md.

Plate X

Larva abundant in the ends of Apple twigs Aug 8 Sep (Md)  
& mines in the interior of the twig down the last downwards causing the end to wither & die - but was unable to rear the imago

Sample 10  
Fig 5. Md.

Larva found in webbed up leaves of Oak (Md) Aug. (Common)  
? Imago. (This may be a mistake)  
also in my note book.

Lar. pl 10  
Fig 12  
? Ins. pl 44  
Fig 7

Larva webs in & amongst foliage of Whortleberry in Aug & Sep. (Md) (very common)

Sample 10  
Fig 13. Md.

Larva found eating leaves of Cabbage Nov. (Md.) & is very subject to the attacks of a parasitical Ichneumon fly or to die in confinement as appeared the following April.

Sample 10  
Fig 16. Md.  
Ins. pl 55  
Fig 19. Md.

Plate XI

Page 169.

Larva eat leaves of Oak Sep. Md.

pl. 11, fig 18 is most probably the younger larva of fig 12

Sample 11  
Fig. 12. 13. Md.

Larva one found eating foliage of Walnut Sept. (Md.) whilst the smaller fig pl 11, fig 15 was taken on Oak! in August (Md.) so in note book may be mistake? Insect probably pl 16, fig 19.

Sample 11  
Fig 14. Walnut Sep.  
Lar. pl 11  
Fig 19. Oak. Aug.

Larva found on Oak. Sep. Md. (rare)

Sample 11  
Fig 16. Oak Sep.

Larva found either on Oak or Walnut as these trees were close together when the specimen was taken & when kept in confinement it refused food of either & died before changing into the pupa state.

Sample 11  
Fig 18. Ind.

Larva found on Wild Cherry Aug. Md. only specimen seen although all the Wild Cherry trees in the neighbourhood were thoroughly examined (rare)

Sample 11  
Fig 19. misscherry  
168. 169



## Plate XII.

Larva taken on Oak Lsp (Md). gregarious - but all died before completing their transformations. Several were also reared from Ova. but also failed not to rear in confinement

Lar pl 11.  
fig 81. Md

## Plate XIII.

Larva found on Oak May (Md) (rare.)

Lar pl 12.  
fig 7. Oak. May.

Larva taken on Bramble May (The only spec seen) Lar pl 12  
fig 8.

Young Larva taken sheltered under Oak bark Dec (Md)  
in the spring it feeds on young buds. the older larva  
was taken in June feeding upon the mature foliage

Lar pl 12.  
fig 11. 12. Oak Md

Larva taken feeding on Bramble in Ap. Md.  
Inst. probably pl 57 fig 20.

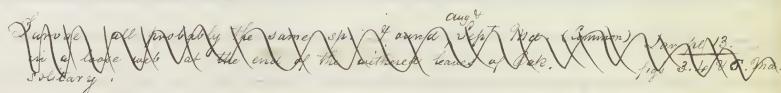
Lar pl 12.  
fig 44. Bramble. 45.  
? Inst pl 57.  
fig 20.

is *Helia conspersalis phaealis* Guen

The young larvae were taken under Oak bark in July (Md) Lar pl 12.  
fed on the young buds in April fig 16, 17.  
Imago appeared in June. 3 Inst pl 57 fig 19. 45 Inst fig 20. See. common Md.

Larva feeds between the leaves of Locust in <sup>June</sup> July (Md; Common) 5 P. 3 pl 12.  
feeding upon the interior (but forms no case like Nephopteryx nebula.) fig 20. Md.  
Pupa formed in the webbed up leaf

## Plate XIII.

  
Diagram of a caterpillar's body showing its prolegs and segmented body segments. A note above the diagram states: "Larva all v. similar the same sp. & aged Sept. 1905 (Common) Jan 10 '13. fig 8. 16. 17. Md."

Larva found in a web in a withered leaf of Oak Sep (Md) (rare) Lar pl 13.  
Mr Saunders of London Ontario Co Canada states that this Larva  
also frequents Beech in Can.



Plate III.

Larva spun a less web between leaves of Oak Aug. Md. Lar pl 13  
(rare) Pg 8 Md.

Larva found on Birch Oct (Md) only one seen probably platypteryx see Newman fig 4 p. 207 Pg 8 Md.

Larva taken on Oak. Sep (Md.)

{ Specimen most probably has lost several tufts of hair  
but it only had one tuft when found, as figured

Lar pl 13  
Pg 9 Md.

Larva taken on Mountainberry Sep. (Md.) (rare only one seen) Lar pl 13.  
Pg 11 Md.

Larva taken on Oak Sep. (Md.) (only one found) Lar pl 13.  
resembles pl 13 Pg 11 but has no stripe on head &c &c Pg 12 Md.

Larvae taken on Oak Sep & Aug Md. (common)  
also on Beech. Canada. (Saunders notes.)

Lar pl 13  
figs 15-16. Md.

Larvae taken on Oak Sept. Md. (very common)  
also on Beech in Canada (Saunders notes)

Lar pl 13  
figs 17. Md.

Larva taken on Oak Sep. (Md) (only one taken)

Lar pl 13  
Pg 18. Md.

Larva found on Oak Sep (Md) (only one taken)

Lar pl 13  
Pg 20.

Larva on Oak Aug (Md) closely resembles Lar of  
*Heterocampa obliqua* pl. 13, figs 26. & 27.

Lar pl 13  
Pg 21.

Larva Oak. Sep (Md)

Ins. appeared the following May.

{ caterpillar not  
uncommon

Lar pl 13  
Pg 22. Oak Sep  
Ins. pg 4  
Pg 20. May.

Larva taken on Oak Sep. Md. (only sp. seen)  
The figure of a similar caterpillar was sent by Mr. Linton of Albany  
N.Y. who states he found it on Willow in N.Y.

Lar pl 13  
Pg 23. Md.

Larva found on Walnut Sep. (Md.) (only sp. taken)

Lar pl 13.  
Pg 24. Md.

only one. Larva on Oak Sep. Md.

Lar pl 13  
Pg 25. Md.  
(169)



## Plate XXV.

Larva fed on Rose Fishkill Landing N.Y. Oct.

Lar pl. 14  
fig 7 N.Y.

Larva found on Plum tree Fishkill Landing N.Y. Oct

Lar pl 14  
fig 2 N.Y.

Larva taken feeding on Smartweed in Aug (Md) (only one seen) Lar pl 14  
fig 5. Md.

only one Larva taken on Smartweed Aug. Md.

Lar pl 14  
fig 6. Md.

Larva taken near Washington D.C. several of their caterpillars were found in the woods but the person who brought them could not tell what tree or shrub they were found upon. in consequence they refused to eat any of the leaves of various forest trees that were offered to them. I <sup>had</sup> ~~had~~ searched for diligently since in the same woods none have been taken since I <sup>until</sup> 1887 when Larvae pl 19 fig 20 were taken on the Orange tree. Md Sep. I resemble this very much

One Larva taken on Oak Sep. Md.

Lar pl 14  
fig 10. Md.

Several larvae were taken one year on Persimmon in Washington D.C. - none found since then.

Lar pl 14  
fig 12. Md.

Larvae feed upon foliage of Wild & cultivated grape in Aug - Md.

Lar pl 14  
fig 15. Md.

one Larva taken in Georgia on Pride of China, and others in Md Sep feeding on the Whortleberry

Lar pl 14  
fig 16. Geo.  
Lar pl 55  
fig 7. Md.

Larva taken plentifully some years on Locust in Sep. (Md) when fully grown it is much larger than the fig

Lar pl 14  
fig 7. Md.

Larva taken on Apple N.Y. in Aug

Lar pl 14  
fig 20. N.Y.

Lar. Aug. Florida food unknown

Lar pl 14  
fig 32. Fla.

B. <sup>15</sup>  
12.

All multitudes of these catfishes were found when the sand bars tri. & jagged. When the bushes were shaken the catfishes sprang out by a silk. It is thus enabled to descend to the ground where it is surprised its excess to any struck persons or dead trout may chance to be undercurrent the banks, either not or within the bar's the bar sometimes, at the end of which the excess is shaped somewhat like a flounce set back & has a small round aperture in the middle, connecting it the neck of the bottle. The striking peculiarity of this excess however is that it is found in regular manner like a fishing net. It is found in regular manner like a fishing net. A direct as face work to suspend the single strings thread about those quarters of an inch in length, swinging to and fro in this usual manner the catfish casts its skin & changes to a chrysallid of a yellow color, spotted with orange and black. The chrysallid is always placed with its head upwards & comes out through the top of the excess so that the funnel shaped bottom the opening has nothing to do with the exit of the opening, & has nothing to do with the exit of the mouth, some of these chrysallids are furnished with two surfaces knuckled horns or projections at the

B. <sup>5</sup>  
15

found this catfishes (June 11<sup>th</sup>) on the terminal shoots of an Alou in California. It is after subtilizing the found together with bows stuck to form a nest they proceed downwards getting the heads & drawing the branches. The catfish now is prepared, several long peacock in one nest (about one only) formed its scores of silk interwoven with dry grass in the nest itself, whilst all the rest was cast the ground to form their nests - the fish nest was accidentally destroyed before perfecting the nest, but a second broad appeared on the same side early in August with the earth & composed as the first. The terminal shoots of the tree were entirely destroyed by this insect.

Note. The few posterior tails divided, or of a yellow color see Redwood 102. *Spartoceta* or 105. *Yucca* or 106. 2. A similar nest of a similar color but distinguished by one or more, gold or light spots on the upper only some from the same top of catfishes had only to notably escaped, before being prepared. was in fact the snout of the snout.

## Plate XXV.

Larva found in the stem of Great ragweed Sep. Ma. Lar pl 14  
most probably larva of *Gortyna*? fig 28. Ma.  
see p. 99.

Larva food unknown. Ind. Sep.

Lar pl 14  
fig 24. Ma.

Larvae taken in the seed pods of Virensret creeps feeding on the seeds Florida Dec.

Lar pl 14  
fig 25. Fla.

Larva web the end shoots of pine together. Fla. Dec.  
These webs are generally covered with grains of dried pine.  
Form unsightly bunches at the end of the branches

Lar pl 14  
fig 26. Fla.

see also pl XVIII fig 15. from Maryland.

## Plate XXV

Larva found on a mid Leguminous plant Florida Aug. 3  
probably a sp. of *Phaseolus*. Lar pl 15.  
fig 2. Fla.

Larvae form flat oval cases somewhat pointed at each end resembling small bird looking melon seeds, in which they reside & crawl or drag about wherever they go. These larvae were quite plentiful in an old cellar at Tallahassee Fla. in July, creeping up & down the damp walls. In any vegetable substance in the cellar on which they might feed were minute fungi on the wall.

Larva found feeding on foliage of Pokeweed Geo. Aug 22. L.P.S. pl 15  
fig 4 Georgia  
fig 3 Fla.  
fig 10. 12 days.

feeding on foliage of Olive July Florida L.P.S. pl 15  
fig 5. Florida  
(not uncommon)

in seed pods of Crotalariae S. Car. Oct. L.P.S. pl 15  
fig 9. S. Car.

on Magnolia July Florida - This larva forms a cocoon with open mesh, shape somewhat like the narrow end downwards & suspended & broader extremely by a single thread. This cocoon is so perfectly net-like that it plainly visible in the interior through

a fine loose web with quadrangular meshes of nearly equal size throughout, the corners are about the size of a Sparrows egg.



Plate XVII

Larva very abundant in 1808. on the cat brier in Md. Aug  
these larvae feed in company, sometimes completely covering parts of  
the plant, when being disturbed they fall to the ground.

Pupae found under leaves & rubbish on or near the  
surface of the ground.

*Homopteris* (cactus) Grote. J. L. xvii/22 Md

Lp. pe 16  
fig 6 Ma.

? 3467  
fig 22. Ma

(*Gelothrix*) marginata var. *Orthotricha instabilis*. see pl. 61 fig 14. the larva <sup>resembles</sup> Gtch. desc  
but (108) larvae both found feeding on the foliage of the rose (cult?) in W. Works. July. also taken in Md. (common)  
Insect figured is from one of the larvae (most probably fig 10)

Plate XVIII

Larva eat small holes in leaf of cotton in Geo <sup>flower</sup> Lar pe 18.  
but do little if any injury (common) sa. fig 3. Geo

Larva when at rest resembles a dry brown withered leaf  
I was taken feeding on Sumach & Horse Oak Md. Sep.  
(rare)

Lar pe 18  
fig 12 Ma.

Larva lives in and destroys the terminal bud of Pine Lar pe 18  
Florida fig 13. Fla.

Larvae form webs in the terminal leaves, on near the junction  
of young branches of Pine these webs being covered with hairs of  
dried grass can be easily seen but when disturbed the caterpillar Lar pe 18  
backs out of its retreat & falls to the earth - this is probably  
the same insect previously figured pl 14 fig 26. from Florida  
(common)

Larva found in galls of *Cynips cornucigera* May Lar pe 18  
fig 16. Ma

Larva found on Willow Oak webbed up in leaf. Lp. Ma Lar pe 18  
(rare) fig 17. Ma



1 Plate XIX 1

Larva found on Oak Sep. Md. not uncommon  
see Edwards Pl. 19 fig 4 which this resembles somewhat

Lar pl 19  
fig 1. Md.

Larva found on Hollyhock Aug. Md. rare.

Lar pl 19  
fig 2. Md.

Larva . . . web in leaves of Passion Oak Sep. Md. Lar pl 19  
(not uncommon) fig 3. Md.

Larva found on Oak Sep. Md. & somewhat resembles 19, fig 1.  
Cler Saunders of Canada states that it is also found on Beech Can. Lar pl 10  
(common) fig 4. Md.

Larva Oak Md. Aug. common. (Geom) Lar pl 19  
fig 5. Md.

Lar Oak Aug. Md. only one taken (Geom) Lar pl 19  
fig 6. Md.

Lar Oak Aug. Md. only one taken (large Geom) Lar pl 19  
fig 7. Md.

Lar Oak Aug. Md. rare. (Geom) Lar pl 19  
fig 8. Md.

Larva taken on Saw-wars. Aug. Md. only sp. seen. Lar pl 12  
fig 14. Md.

Larva taken on Fringe tree Sep. Md. & must probably Lar pl 10  
be the same as Lar pl 14 fig 8 fig 20. Md.

1 Plate XX 1

minute cocoons found on the bark of Oak during Lar fig pl 90  
winter & Spring - Insect appears about May or June. Md. common. fig 91. Md.

Larva found on Caneysuckle Ny.

Lar pl 20  
fig 32. Md.

Larva webs the leaves of Oak together & devours the  
parenchyma Sept. Md. (very common)

Lar pl 20  
fig 34. Md.  
Ins. no. 108.

Larva lives in the rolled up leaves of Oak Yacht  
the parenchyma in Sep. Md.

Lar pl 20  
fig 36. Md.

Address to a woman & family

Plate XX

*Nephopteryx undulata* <sup>o</sup> undulata

Larva webs the leaves of Oak together in Sept. Md. It forms large brown crooked cases between the leaves resembling care pl. 26 fig. 35. No rams horns. in these cases the larvae live feed upon the parenchyma of the leaves (common, Md.)

Larva webs leaves of Oak together in Sep. Md & eats parenchyma. Lar pl. 31 fig. 35. Md.

Larva found on Wild Cherry Sep. Md. Insect appeared May but unfortunately escaped out of the box during the night Lar pl. 20 fig. 37. Md.

Plate XXII

Larva taken on Apple leaves. Oct. Md. not common Lar pl. 21 fig. 5. Md.

Plate XXIII

Larva found mining blotches in leaves of Locust Sept. Md. Lar pl. 22 fig. 5. Md.

Plate XXXIII

Track of a leaf miner on Holly found by Mrs Adams D.C. in Aug.

Leaf & Lar pl. 73 fig. 20. Md.

Leaf miner in Oak. Aug. Md.

(prob. *Nepticula Saginella*)

Leaf & pl. 73 fig. 23. Md.

Larva mines in leaf of Solidago making a blister like spot.

Lop. pl. 73 fig. 26. Md.

Plate XCII

Larva found feeding on the flowers of Golden Rod Sep. Md. common.

Lar pl. 92 fig. 12. Md.

& see over leaf

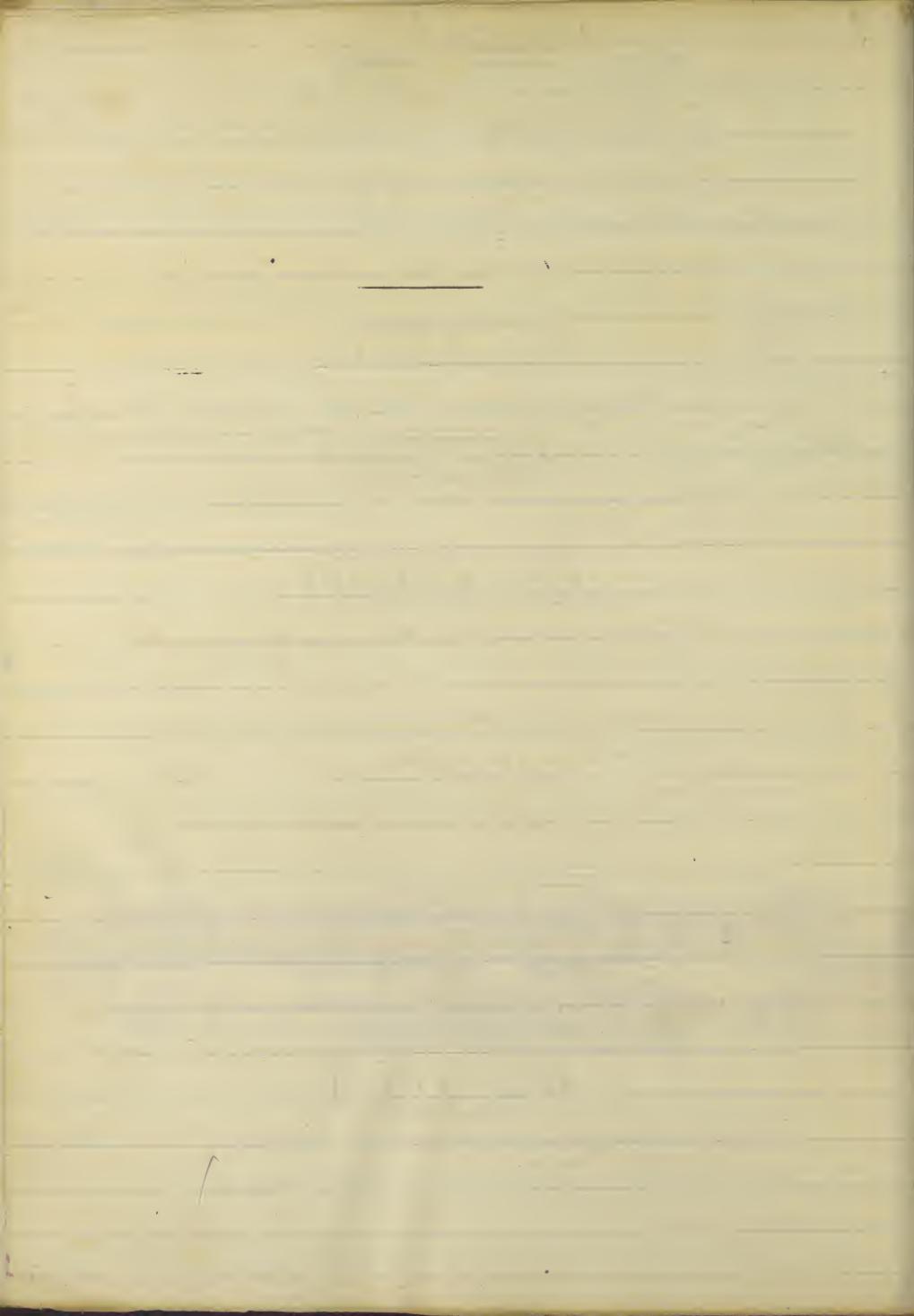


Plate X C III

See former page also

Glossae found feeding on flowers of Goldenrod. Sep.-Oct. Md. <sup>large</sup>  
<sup>1914</sup> <sup>1st</sup> <sup>1st</sup>

2. Larva taking feeding on Cabbage Sep 19<sup>th</sup> but bath destroyed by a fungous growth. Larva g. 2  
Fig 18 19<sup>th</sup>

*Plate XC VIII*

fig 11 Larva in fruit of Cranberry. Scent to Dept by Dr G Goodell Lakesville Burlington Co. Larpl 98 fig 11 not

The Cocoons are formed of grains of sand cemented or spun together on the surface of the earth or under leaves & rubbish & frame 1<sup>st</sup> to 5<sup>th</sup> Aug Md.

fig 19. Larva found in wetted up leaves of Elder. Id by Mrs Adams Lar pl 98 fig 19 188

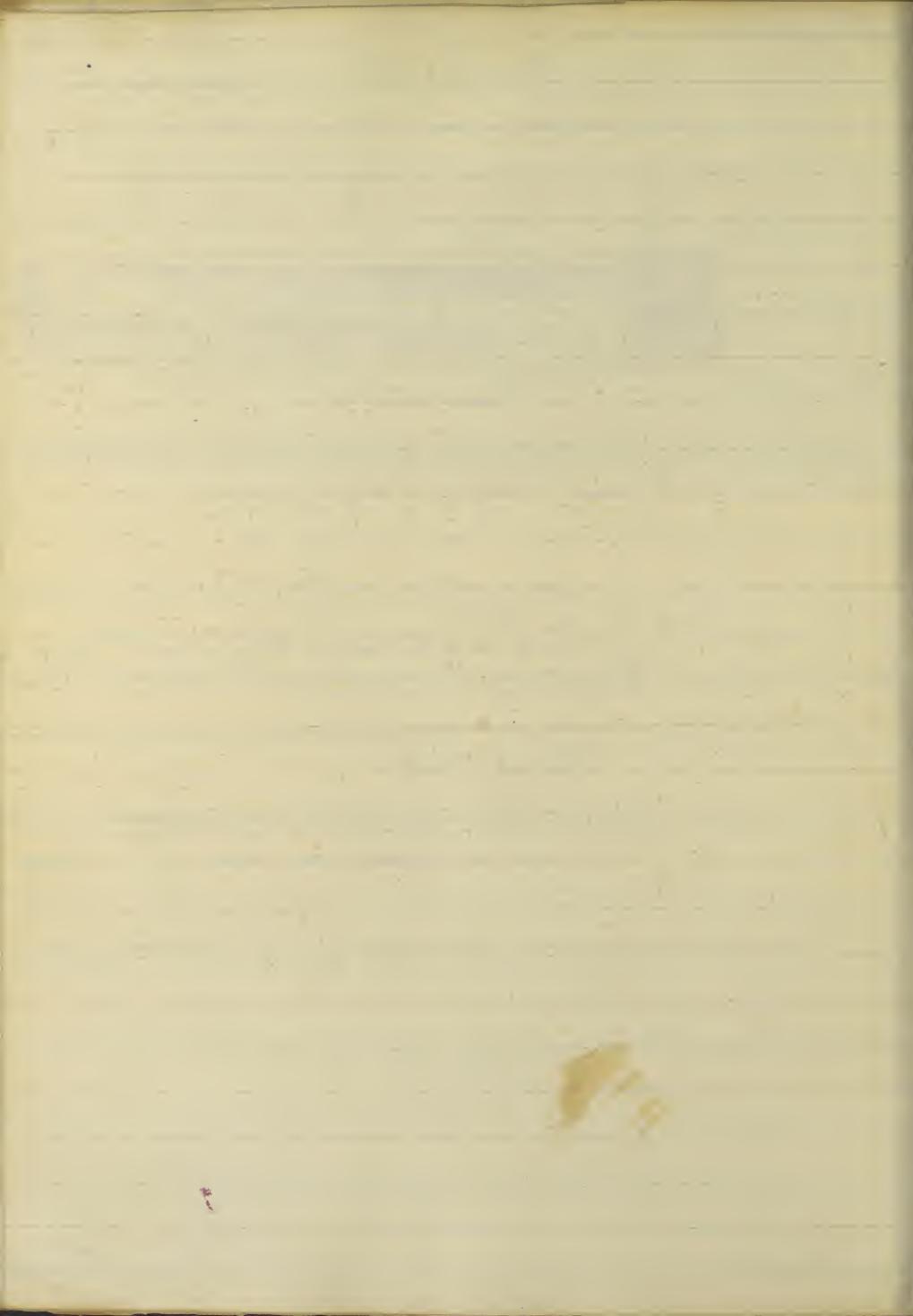
fig 21. Larva fed on Willow & may possibly have been sent from Canada by Mr. Saunders in the same package of Willows sent with <sup>Larva fig 21</sup> <sup>fig 21</sup> <sup>Can?</sup> *Syconia Saundersii*. The cocoon bears a great resemblance to pl 84 fig 2. may it not be the same?

Plate XCIX.

fig 11. Lar of so-called "corn bud moth," found Oct in green corn leaves feeding <sup>Surp 99</sup> in the same manner as *Heliothis armigera* sent by Mr Chapman. Saw a <sup>fig 11</sup>

17 Larva vak. from Mr Lintner's colored drawing. Larva gg

18<sup>2</sup>. ————— " " " " " Gar pg 99  
1948





part 1 not complete

11

List of Insects figured but not yet named. or placed

(Plate 20)

- Fig 20/ <sup>19</sup> 1 Md. Aug. *Amolita fessa* Guen  
 2 " " *Galgula Guen subpartita* Guen  
 5 See *Holocera glandularis* & CXVII. 4. Ins. <sup>2</sup>  
 (came out of an old acorn. Sep. Md)  
 8 New York.  
 9 Md July.  
 12 Md Sep.  
 16 Md July. *Diprionodes varus*

17. 18. 19. 20 Md July  
 22. 26 <sup>27</sup> fm Canada.  
 29 Cocoon Oak Bark Md  
 July to July

*Sciaridae*  
*Catharina*  
*Tuberculata*

Fig 18, 20, 22, 26 fm New York after Macfiey Coll.

(Plate 43.)

- Fig 4 fm N.Y. coll of Mr Grote  
 23. " Canada " " " Mr Norton.

(Plate 45.)

Fig 18 Canada coll of Dr. Day Lucas Eng.

(Plate 46.)

- Fig 2. ♂ 13. ♀ 16. all fm Coll of Mr Macfiey N.Y.

- Fig 2. ♂ 47. Md June.

(Plate 49.)

Fig 2. ♂ 47. Md June.

(Plate 50.)

- Fig 4. <sup>♀</sup> rare. 6 ♂ 16. 17 → *M. Metoponaria Malana* Stch  
 { *Anophora Clem*  
 Fig 19. { Md June & July plentiful attracted by lights

(Plate 51.)

- Fig 3 Lar found on Oak Waln. see also pl. 50 fig 18. - this common Md  
 29. *Metoponia obtusaria* ♂ 4 36. Md.

55 (<sup>4</sup>) *Nolaphana malana* Stch (Plate 55.) see p 135 also

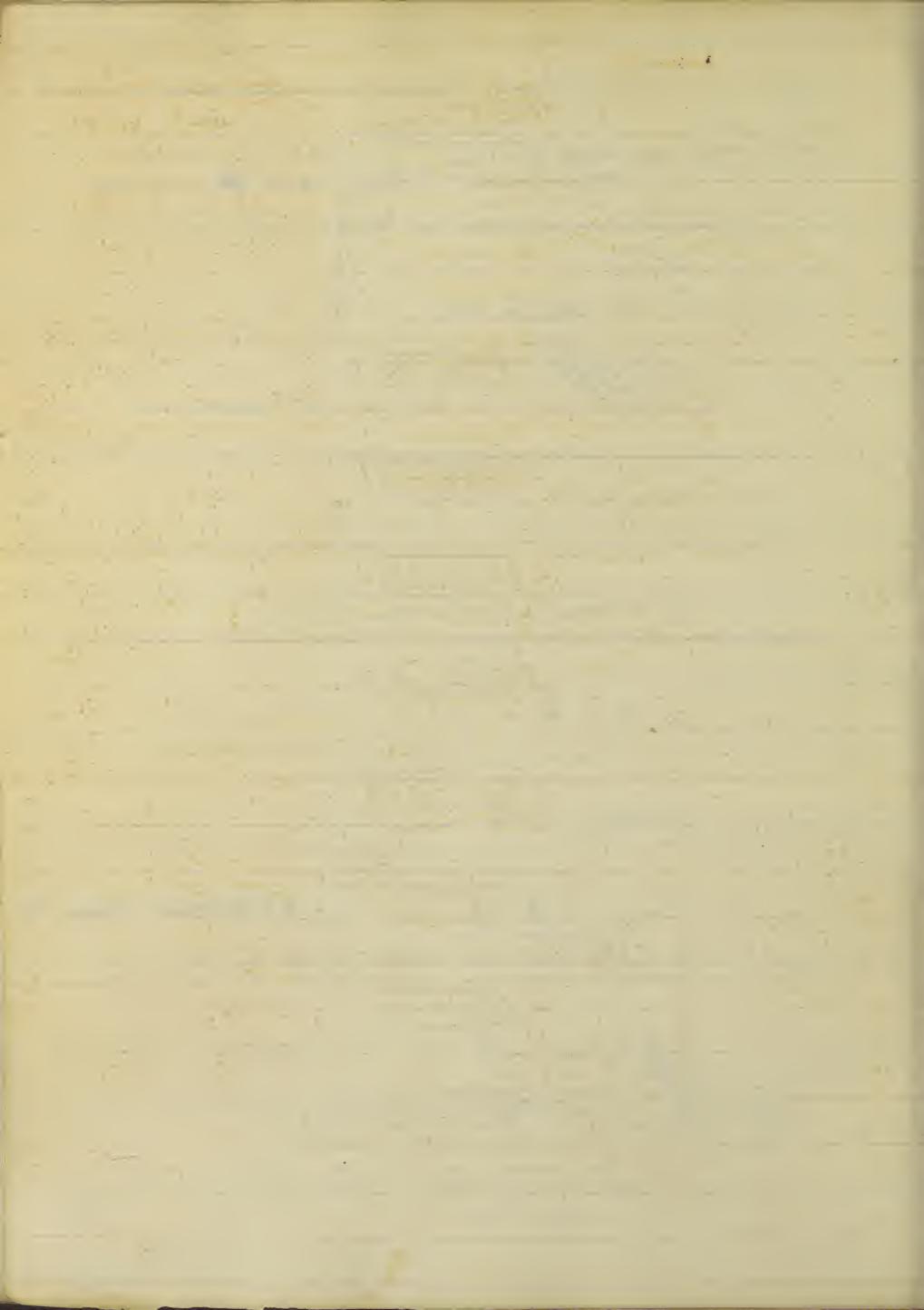
55 <sup>56</sup> <sup>130</sup> *Nolaphana* <sup>Malana</sup> Stch (Plate 55.)

Ins 55/56 resembled somewhat *Cadena miscellanea* same plate?

Ins fig 19. From Larva on Pl 10 fig 16 fed on cabbage.

*Nolaphana lutea* 94/14 Mass

(173)



## [Plate 56]

- Anthonomus clem* fig. 1. Florida June  
 " 16 Georgia Oct. --> *Stenotarsus* *geminatus* sp. n.  
 " 21 Florida.
- Renea lefrayei* Cgr. fig. 4 Fla. Sept. 14-11 Fla. Aug.  
 fig. 15 Fla. July 16 Md & Fla. Aug.  
*Amolita fessa* En? ?

## [Plate 57]

- Ins pl. 57/fig. 8 bran from Caterpillar pl. 12 fig. 16-17. on Oak. Md. for ♀ see pl. 60 fig. 20.  
 Ins pl. 57/fig. 21 bran from Caterpillar pl. 12. fig. 14. on Bramble.

## [Plate 58.]

fig. 3. Va. from Maryland.

## [Plate 59.]

- fig. 9. same insect as pl. 61x. fig. 9. Md.  
 fig. 13 probably allied to *Panopoda*. Md. *Renegia hexastigma* Harvey

## [Plate 60.]

- fig. 4. ♂. 7. Md { fig. 9. same insect as pl. 61x fig. 9. Md.  
 fig. 13. ♂. Md { (See fig. 20 ♀ see Lar pl. 12 fig. 16 & 17. on Oak.  
 fig. 18. Litoidea convalescens Gian & Pseudagavea lubricata Engelm. unnot in us fig. 2/p. 57/4.

## [Plate 61]

- Todua nuyayo* Hub { fig. 7. Md Aug. { fig. 12. Md. { 20 fm Hudsons bay.  
 figs (22) 25. Ma { fig. 27 fm Texas

## [Plate 62.]

- fig. 2. 3. 6. Ma. { fig. 9. Hudsons bay.  
 figs 10. 12. 15. 16. 18. 25. 26. all from Maryland.

## [Plate 63.]

- fig. 3. Maryland. *Anthonomus planicollis* Clem. 83' 6" Md.  
*Ariaphloea* Lexa, 85' 32"

## [Plate 64.]

- fig. 4. *Papa* found webbed up in Hawth. leaf Md. June.  
 fig. 2. & 3. Ma May { fig. 5. 6. Md. June.  
 fig. 7. Larva figured pl. 10 fig. 12. on Oak Md.  
 fig. 11. ♂. May. { 12. Md. June  
 fig. 13. 14. Md. Oct. { fig. 16. Ins May. from Larva pl. 2 fig. 16. Oak Sep. Md.  
 fig. 17. fm. Md. May  
 fig. 19. Md. May. Thru from Larva pl. 11 fig. 14. on Oak &  
 fig. 20. Md. May. Larva figured pl. 13. fig. 22. on Oak.  
 fig. 22. Ma May  
 fig. 30. " ?

100 100 100 100

三

[Plate 65.]

192d M. R. 6. W. M. M. 19. MUS. JULY 8 28  
all from Coll of Mrs. Sanborn Mass.

351

[Plate 67.]

figs. 21. 22. Md.

[Plate 68.]

*Eurycreon sticticola* Linnaeus  
figs. 1. 5. ~~Ab.~~ - (see also pl. 84 fig 4) 20. 25. 26. From Coll of Mr. Marsh  
*Litophane betulinus* G. & R. 1817 + *Litophane latericea* G. & R. 1830  
Illinoian

[Plate 69.] - LXIX / 8. {*Pharcasiophora multilobata* Clem.

figs. 6. 7. fm. fungi. Walsh coll. Illin.  
" 9. from *ulmocola* gall Black Knot coll. of Mr. Marsh Illin.  
figs. 10. 24. 26. 29. 30. coll. of Mr. Marsh Illin.  
11. 41. 42. 44. 45. 47. 48. *Deltotoma erythromaria* Guen.

[Plate 70.]

figs. 3. 5. 6. 11. fm Coll of Mr. Walsh Illin.  
" 12. Large feeds on Oak Walsh. same as pl. 51. fig 3. Md.  
" 15. ~~Ab.~~ (148. 22. 25. noctuellea SV Illin.) *nemophila noctuellea* SV Illin.

[Plate 73.]

Figures taken A.C. by Mrs. Adams.

[Plate 74.]

Fig. X. \* 3. 4. 7. 16. 17. 21. all fm Coll of Mr. Will Phil.

[Plate 76.]

Fig. 5. Colorado. Mrs. Ridings Coll.  
" 16. coll of Mr. Ridings Phil.  
" 18. Coll Ent Soc Phil.

[Plate 77.]

Fig. 8. (11. Coll Ent Soc Phil  
*Oligostigma albula* Röv.  
19. *virginica* Ridings Coll.  
20. Coll Ent Soc Phil.  
33. Md.

*Eurycreon sticticola* Linnaeus Pl. 78  
78/5 Illin

(175)



fig 17. No. 966., Saunders coll. (Can. rare)

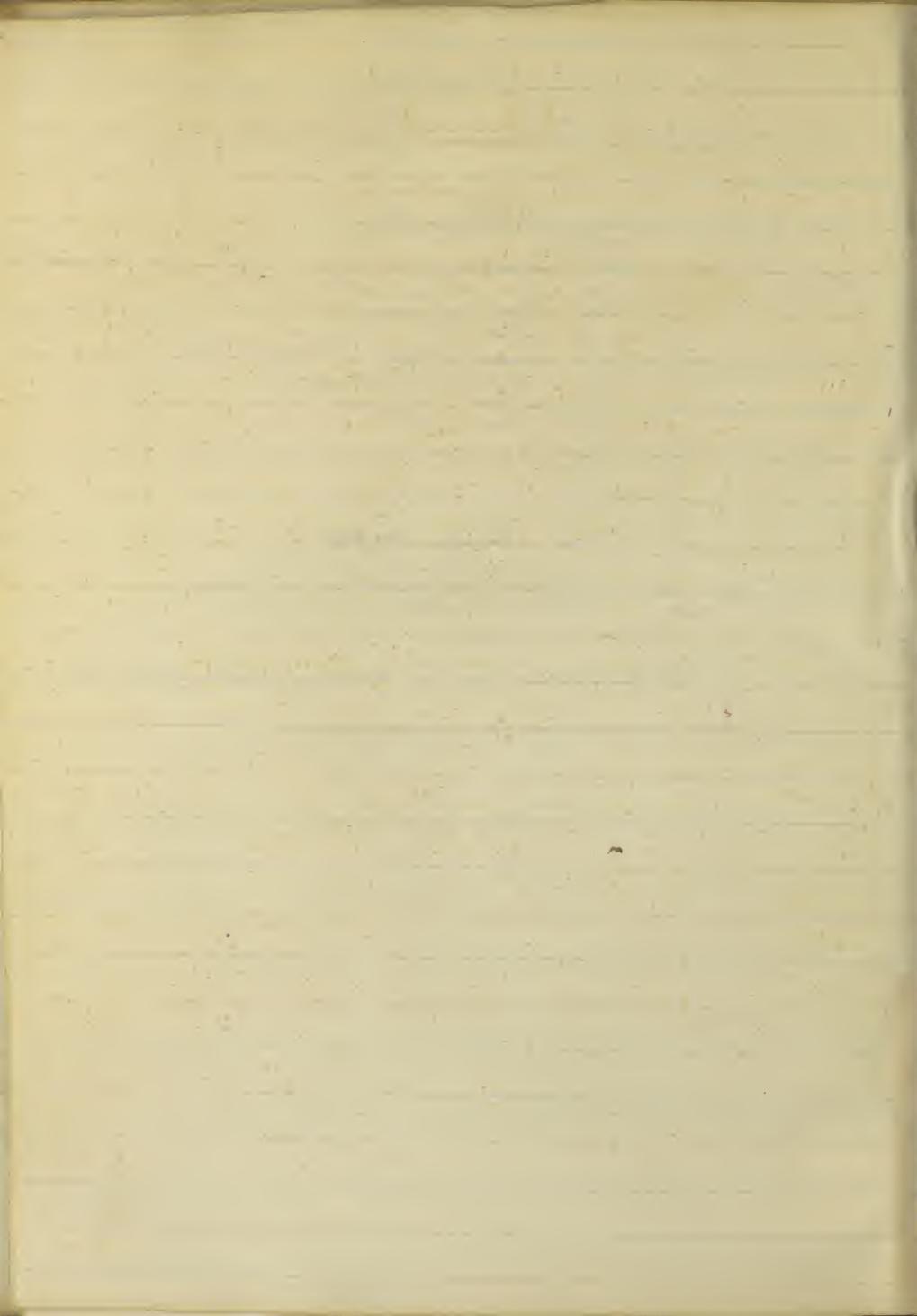
## (Plate 83.)

*Proctotrupes*  
number  
of Specimen

- Fig 2. (365) London Can. not uncommon wet places Can. Saunders Coll  
 21. — (1044) London Borders of ponds not uncommon Can " "  
 8. — (868) Toronto not uncommon. " "  
 9. — (600) London Borders of ponds not uncommon " "  
 12. — London in woods not uncommon June " "  
 13. — (578) Toronto rather common Can " "  
 14. — (605) London not common " "  
 16. 1. — (625) London rare " "  
 17. — (1041) " " "  
 18. — (1538) " " "  
 19. — (955) " " "  
 20. — (943) " " "  
 21. — (1636) Grimsby M Petek " "  
 22. — (614) London Early June not uncommon " "  
 23. — ~~XXXXX~~ London & Ottawa not common Can " "  
 24. — (570) London & Ottawa not common Can "

All these specimens from the collection of Mr Wm Saunders Canada

(Tn)



(Plate 84)

*Specimens*  
*private number*

- \* Fig 1 (507.) Ottawa Lacuna nivis Can.  
2 (662) ♀ Cocoon. Larva feeds on Willow  
not uncommon London Can

Coll of Mr Saunders

- 4 15261 Ottawa Can. (See also pl 68 fig 17. affinis) "

~~15262~~ Ottawa Can. same year name

- 7 (516) London Can. "

8. (537) Ottawa Can. "

9. (448) nr Quebec Can. "

10. (512) Larva feeds on Oak June 20. Pupa 24. Im. June 18. th "

11. (526) London not common "

12. (548) rare Canada "

13. (467) Ottawa "

14. (529) " "

- 15 So called Cayenne Moth from Dr Lincecum Texas "

- 16 from the number of Specimens sent must be rather common

17. (666) London Can. Coll of Saunders Can

18. (222) — " not common "

19. (1540) " rare "

20. (959) Larva feeds on Pine Imago May 20. Can. "

21. (944) London Can. not com mon. "

22. (466) Ottawa Can. "

23. (550) London not uncommon "

24. (971) — " rare "

25. (531) — " "

26. — (960) Larva feeds on Willow, This larva alters so much in appearance after each molt that it has been described by Mr Saunders at three different times as 3 distinct species

27. (964) London Can. "

28. (967) Toronto not uncommon "

All the specimens (except. (15261 which are from Dr Lincecum of Texas)  
are from the collection of Mr Saunders. London Canad.  
Those marked Ottawa are from the coll of Mr Billings but sent by  
Mr Saunders.

174

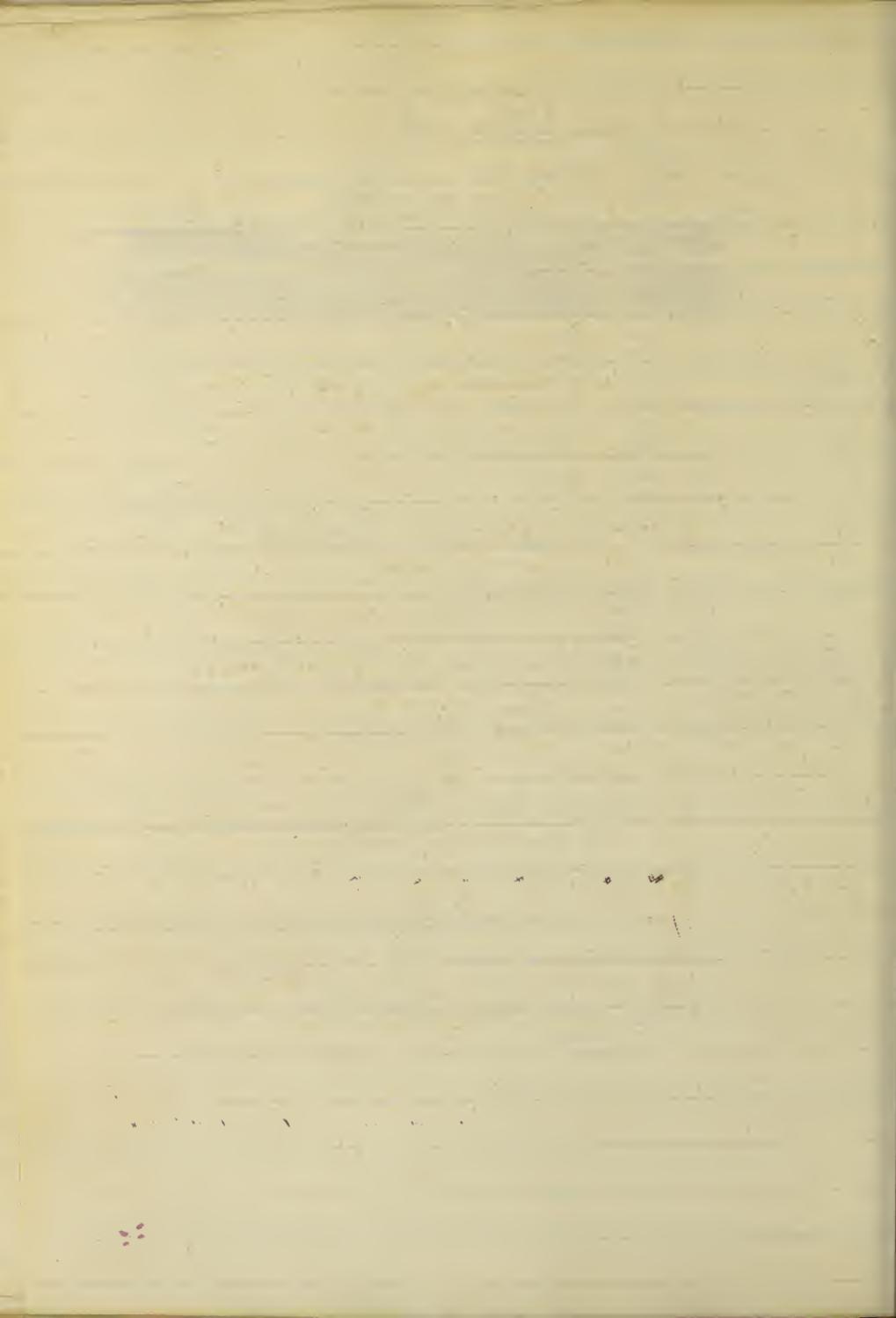
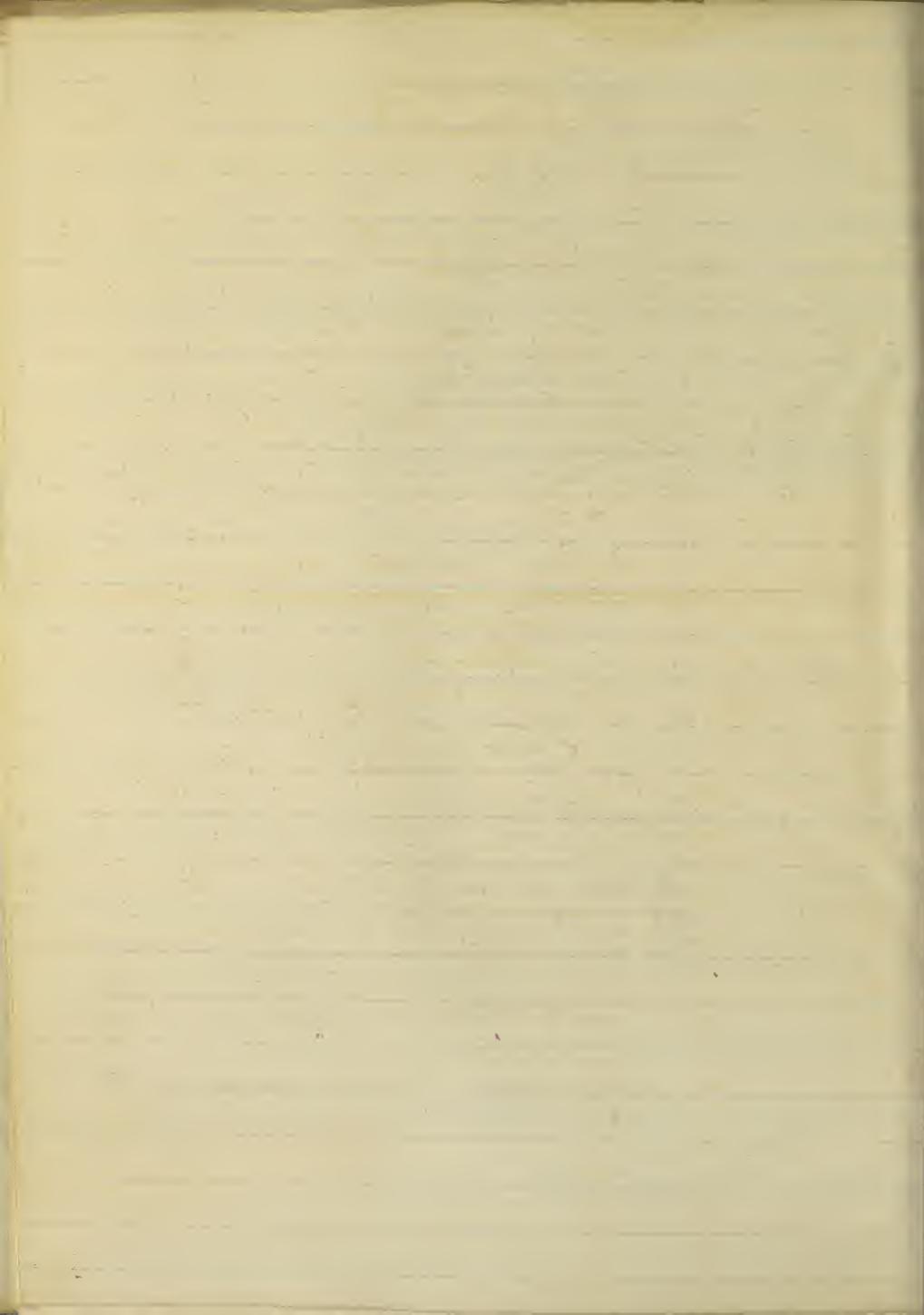


Plate 85

Proprietary Number  
Saunders Coll.

1. ~ 1566 Canada coll. of Mr. Saunders
2. ~ 522. Grimsby Canada. " " "
3. ~ 1572. Canada. " " "
4. ~ 340. London. " " "
5. ~ 626. { Green Larva on Oak } Ind. mid July. Saunders " " "
6. ~ 572 London not common Can. " " "
7. ~ 584 " rare. Can. " " "
8. ~ 940 " " (Ind June 7) " " "
9. ~ 1543 " common. " " "
10. ~ 490 Ottawa Can. " " "
11. ~ ~~Specimen from Michigan~~ " " "
12. - Specimen from Michigan
13. ~ 603 London Can. Saunders Coll.
14. Specimen from Texas Dr Linnecum
15. " " " " " } *Macrops chrysanthemum* or *lex*
16. " " " " " } *Macrops chrysanthemum* or *lex*
17. From Ottawa Can. *Linckenia perfectalis* Hub.
20. From Michigan
21. From Texas. Dr Linnecum
22. " " " under side of 22.
23. " " " "
24. " " " "
25. " " " "
26. " " " "
28. " " " *Tomas radicans* Morr.
29. From Michigan
31. Maryland
32. From Texas by Dr Linnecum
33. " " " "
35. " " " "
37. " " " "
38. " " " "
40. ~~Specimen~~ " " " "
41. ~~Specimen~~ " " " "
42. { From Dr Linnecum Texas. in his notes he says "These are the moths that came from the caterpillars which stripped the Hickory & Pecan trees in Texas." The same note was on all these three insects, are they merely varieties or are there 3 distinct species destroying the Hickory & Pecan? }

The specimens marked Grimsby are from coll. of Mr. B. H. although sent by Mr. Saunders, of London Ontario to Can.



(Plate 86.)

fig 4 Specimens from Maryland same as pl 80 fig 11

(Plate 87.)

| No<br>Saunders. |       |             |                |   |   |
|-----------------|-------|-------------|----------------|---|---|
| fig 1.          | (387) | from Canada | Saunders Coll. |   |   |
| 10              | (399) | "           | "              | " | " |
| 11              | (400) | "           | "              | " | " |
| 13              | (573) | "           | "              | " | " |
| 14              | (572) | "           | "              | " | " |
| 16              |       | "           | "              | " | " |
| 17              | (404) | "           | "              | " | " |
| 18              | 405   | "           | "              | " | " |
| 20.             | 1589. | "           | "              | " | " |
| 21.             | 888.  | "           | "              | " | " |

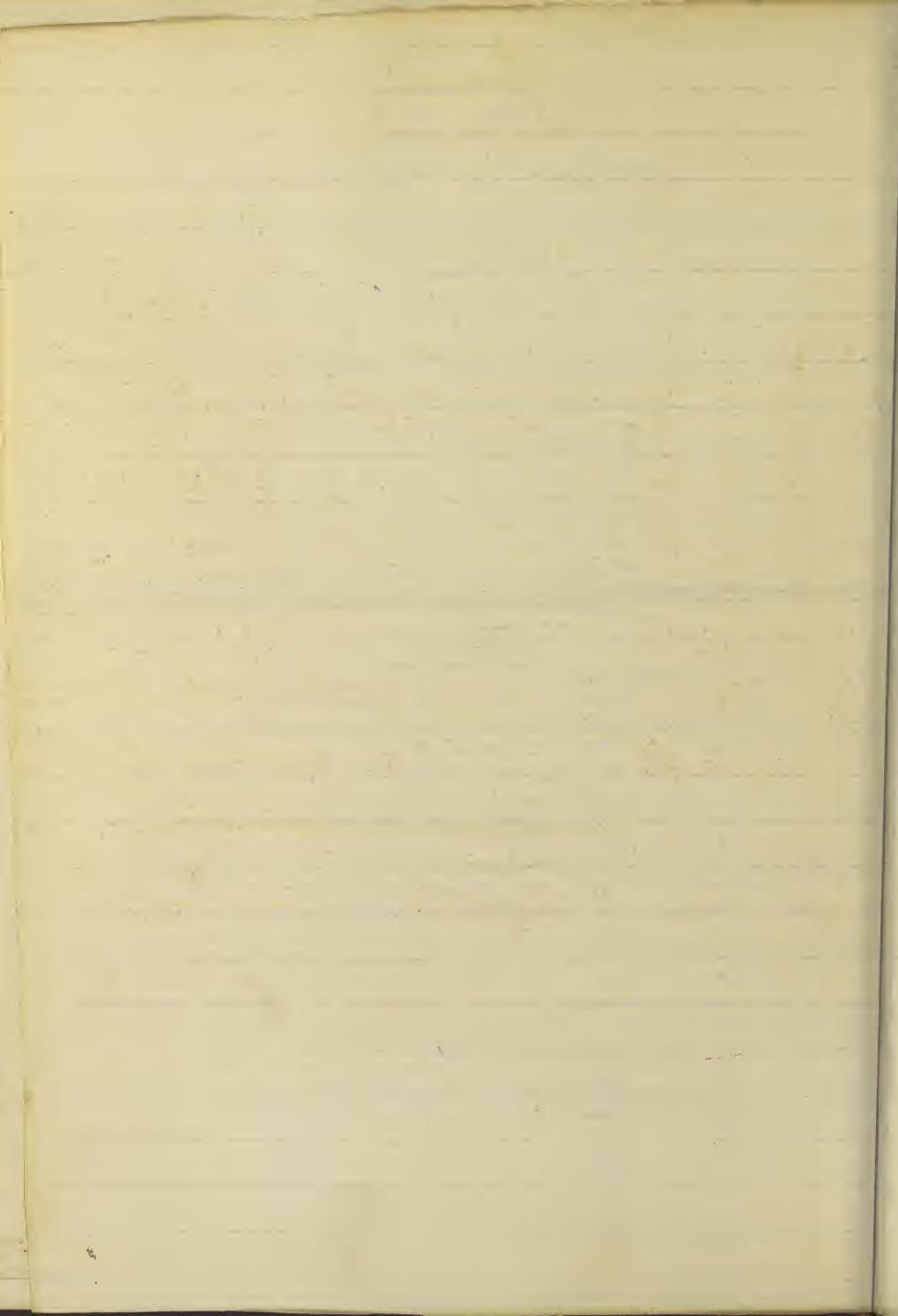
all specimens from Mr Saunders. of London Ontario Co Can.

Page  
179.

Plate 88

|         | Saunders Number |  |   |   |   |  |  |
|---------|-----------------|--|---|---|---|--|--|
| fig. 1. | (392)           | from Coll of Mr Saunders Canada.             |   |   |   |  |  |
| 2       | (632)           | "  | " | " | " |  |  |
| 4       |                 | From Dr Lincecum Texas.                      |   |   |   |  |  |
| 6       | 395.            | in Coll of Mr Saunders London Ontario Co Can |   |   |   |  |  |
| 7       | 1532            | "  |   |   |   |  |  |
| 8       | 623             | <i>Phigalia strigosa</i> Moul.               | " | " | " |  |  |
| 9       | 393             | <i>Rheumaptera Lacustrata</i>                | " | " |   |  |  |
| 10      | 583             | <i>Schizura Descripta</i> Huf.               | " | " |   |  |  |
| 11      | 587             | <i>Semiochlea exotata</i> Pack.              | " | " |   |  |  |
| 12      | 98              | <i>do</i> " " do "                           | " | " |   |  |  |
| 13      | 581             | " " " "                                      | " | " |   |  |  |
| 14      | 585             | " " " "                                      | " | " |   |  |  |
| 15      | 586             | <i>Lemnophila exotata</i> Pack               | " | " |   |  |  |
| 17      | 1620            | " " " "                                      | " | " |   |  |  |
| 18      | 1069            | <i>Polyphemus papuana</i> Linn               | " | " |   |  |  |
| 21      | 397             | " " " "                                      | " | " |   |  |  |
| 22      | 398             | " " " "                                      | " | " |   |  |  |
| 23      | 1571            | " " " "                                      | " | " |   |  |  |
| 24      | 978             | " " " "                                      | " | " |   |  |  |
| 25      | 390             | " " " "                                      | " | " |   |  |  |
| 26      | 160             | " " " "                                      | " | " |   |  |  |
| 27      | 1591            | " " " "                                      | " | " |   |  |  |
| 28      | 49              | " " " "                                      | " | " |   |  |  |
| 29      | 402             | " " " "                                      | " | " |   |  |  |
| 30      | 1593            | " " " "                                      | " | " |   |  |  |
| 31      | 386             | " " " "                                      | " | " |   |  |  |

180

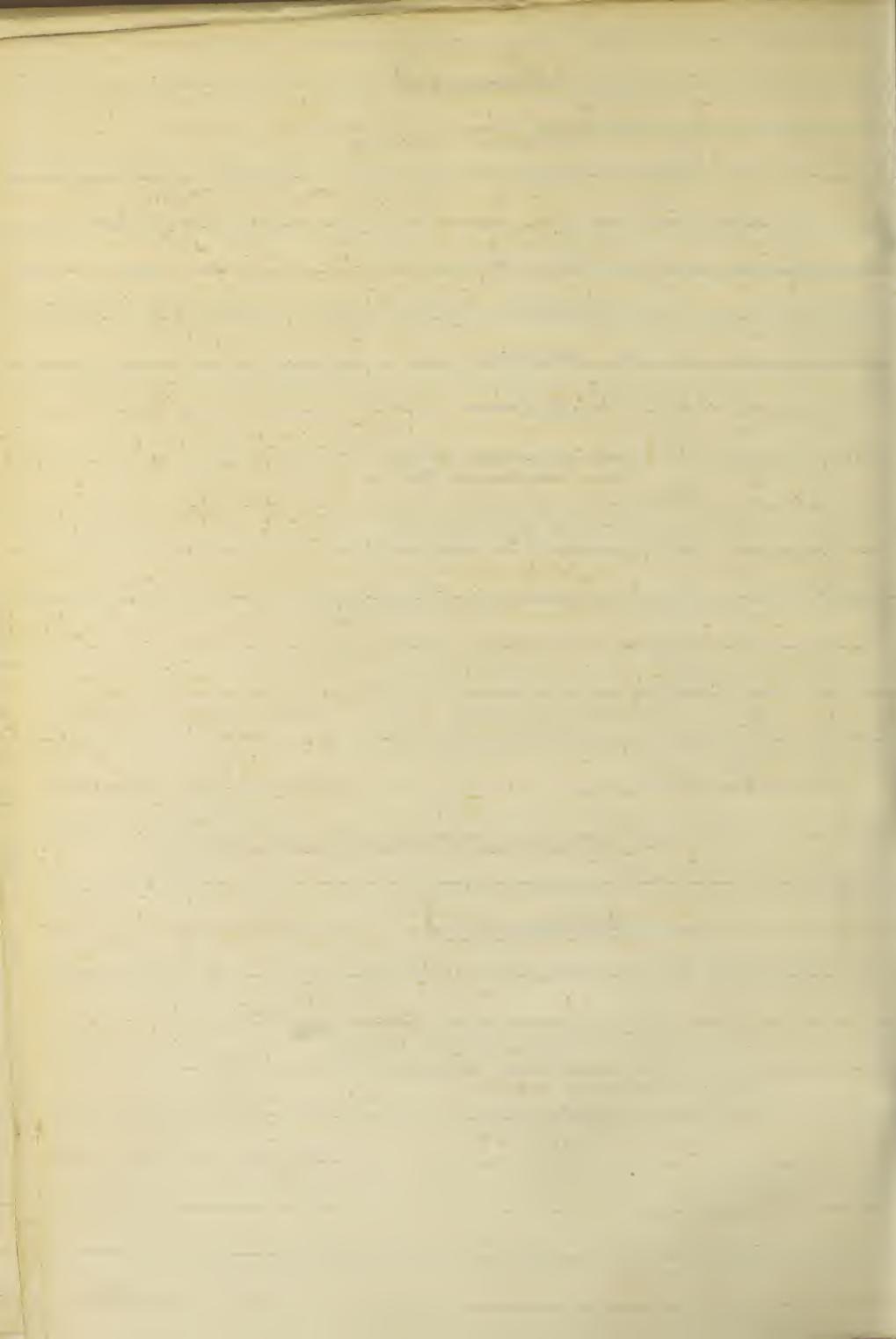


{Plate 89.}

No in Saunders coll.

{Plate 90.}

- 9 fig 8 — from Mr Allan Crocker Kansas  
 11 — Md. Same as pl 86 fig 4.  
 17 — from Mr Allan Crocker Kansas  
 also fm Dr Palmer Chickasaw Nation  
 21. from Mr Crocker Kansas 128  
 23 from Dr Linnecum Texas.  
 25 bred from *Oenysalis* G.C.



{ Plate 91. }

fig 11. fm Gr Linacum sexes

{ Plate 92 }

- fig 1. 3. 5. 6. 10. from Coll of Mr Palmer D.C. Aug  
 fig 7. fm Mr Wilson N.Y. resembles pl 89. fig 82. fm Texas.  
 " 8 " "  
 fig 11. . . . Coll of Mr C Dodge D.C.

{ Plate 93. }

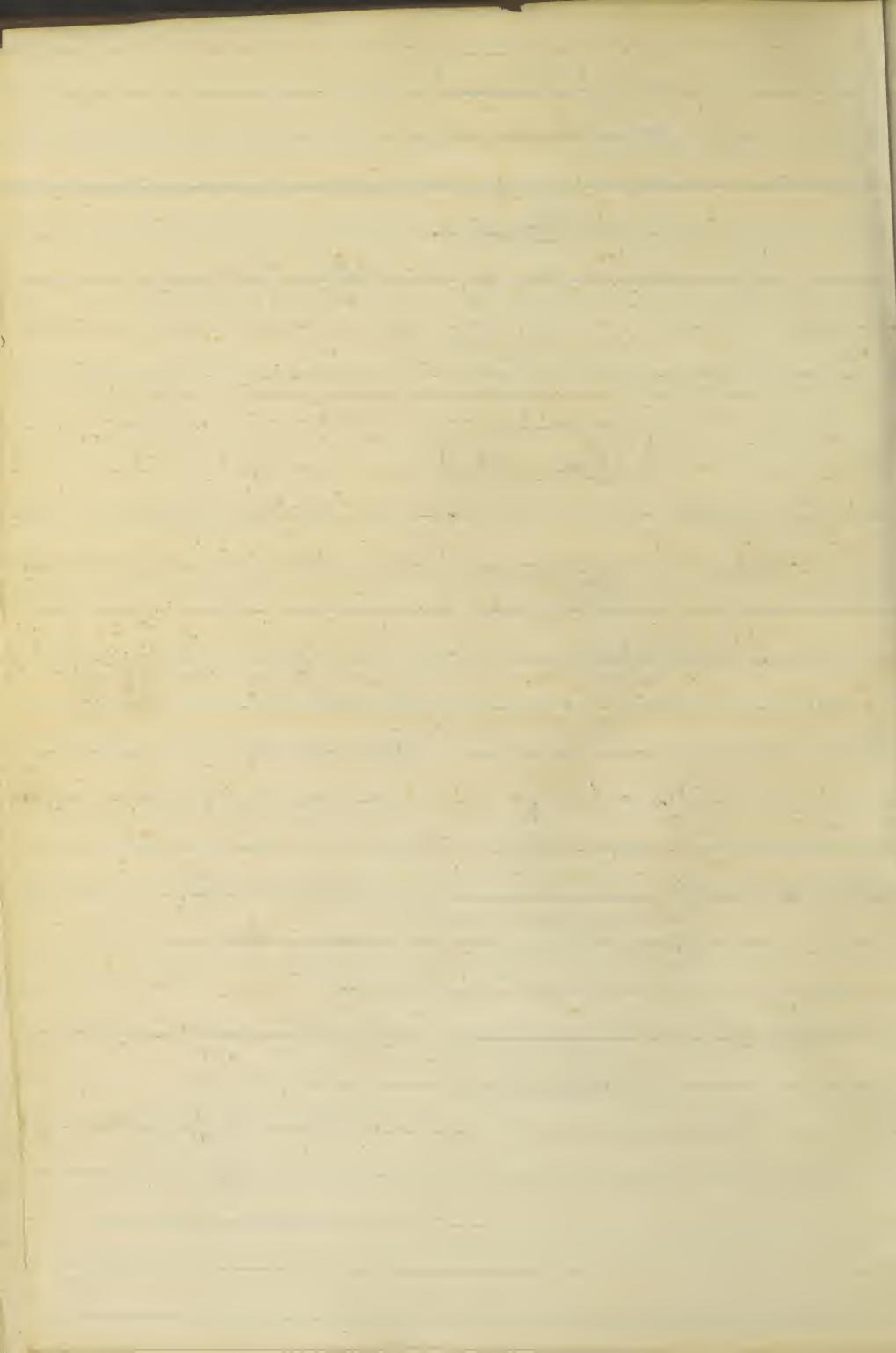
fig 12. fm coll. of Mr Sanborn Mass. (fm Mount Washington)

{ Plate 94 }

- fig 2. fm Collection of Mr Sanborn Mass. July.  
 " 3 loc pup & insect - Larva lives in a minute case on the bark of Apple  
     Mass. Feb. (Sanborn Coll)  
 " 11 fm coll of Mr Sanborn Mass.  
 " 15 " " " Medford Mass. Sep.  
 " 18 " " " " "  
 " 19 " " " " "  
 " 21 " " " " Andover Mass. June  
 " 23 " " " " " Mass  
 " 24 " " " " "  
~~Manisosteryx~~  
~~sturziana~~  
~~maura~~ { 25 " " " " " In Maple grove. Aug.  
 " 26 " " " " "  
 " 27 " " " " " Medford. Sep.  
 " 33 " " " " "

{ Plate 95. }

figs 1. 3. 4. 11. all from Dr Palmer Chickasaw Nation



{Plate 96.}

Sauviers mark.

|        |                         |                        |        |
|--------|-------------------------|------------------------|--------|
| Fig 1. | J.P. 1614               | fm Coll of Mr Saunders | Canada |
| 2      | 1574                    | " " "                  | "      |
| 3      | G.S.B. 966              | " " "                  | "      |
| 4      | 137.                    | " " "                  | "      |
| 5      | J.P. 1610               | " " "                  | "      |
| 6.     | Nova Scotia             | " " "                  | "      |
| 7      | 308.                    | " " "                  | "      |
| 9      | G.S.B. 957. Nova Scotia | " " "                  | "      |
| 10     | E.B.R. 366.             | " " "                  | "      |
| 11     | Nova Scotia             | " " "                  | "      |
| 12.    | G.S.B. 916              | " " "                  | "      |
| 13     | 217.                    | " " "                  | "      |
| 14     | E.B.R. 242              | " " "                  | "      |
| 15     | 103                     | " " "                  | "      |
| 16     | 327                     | " " "                  | "      |
| 18     | 312                     | " " "                  | "      |
| 20     | 334                     | " " "                  | "      |
| 21     | Nova Scotia             | " " "                  | "      |
| 22     | 208                     | " " "                  | "      |
| 23     | 166                     | " " "                  | "      |
| 24     | 162                     | " " "                  | "      |
| 27     | E.B.R. 258              | " " "                  | "      |

Just dico  
Sphaeridium  
capitatum Gr.  
+ Jasphida  
teratophyllum  
10/13. #5

(183)

{Plate 97.}

|        |                          |                |
|--------|--------------------------|----------------|
| Fig 1. | fm Coll Mr Santom Mass.  | (Count Lep.    |
| " 11   | " Coll of Mr Saunders    | Can. (No 208.) |
| " 12   | " " " "                  | (No 146)       |
| " 13   | " " Mr Riley) - No.      | Genus?         |
| " 21   | " " of Mr Saunders       | Can. no 204    |
| " 23   | " " " "                  | (J.P. 1617.)   |
| " 26   | " " " "                  | (J.P. 1603)    |
| " 27   | " " " "                  | (J.P. 1601)    |
| " 31   | " " " "                  | (19)           |
| " 32   | " Coll of Mr Solier D.C. |                |

(184.)

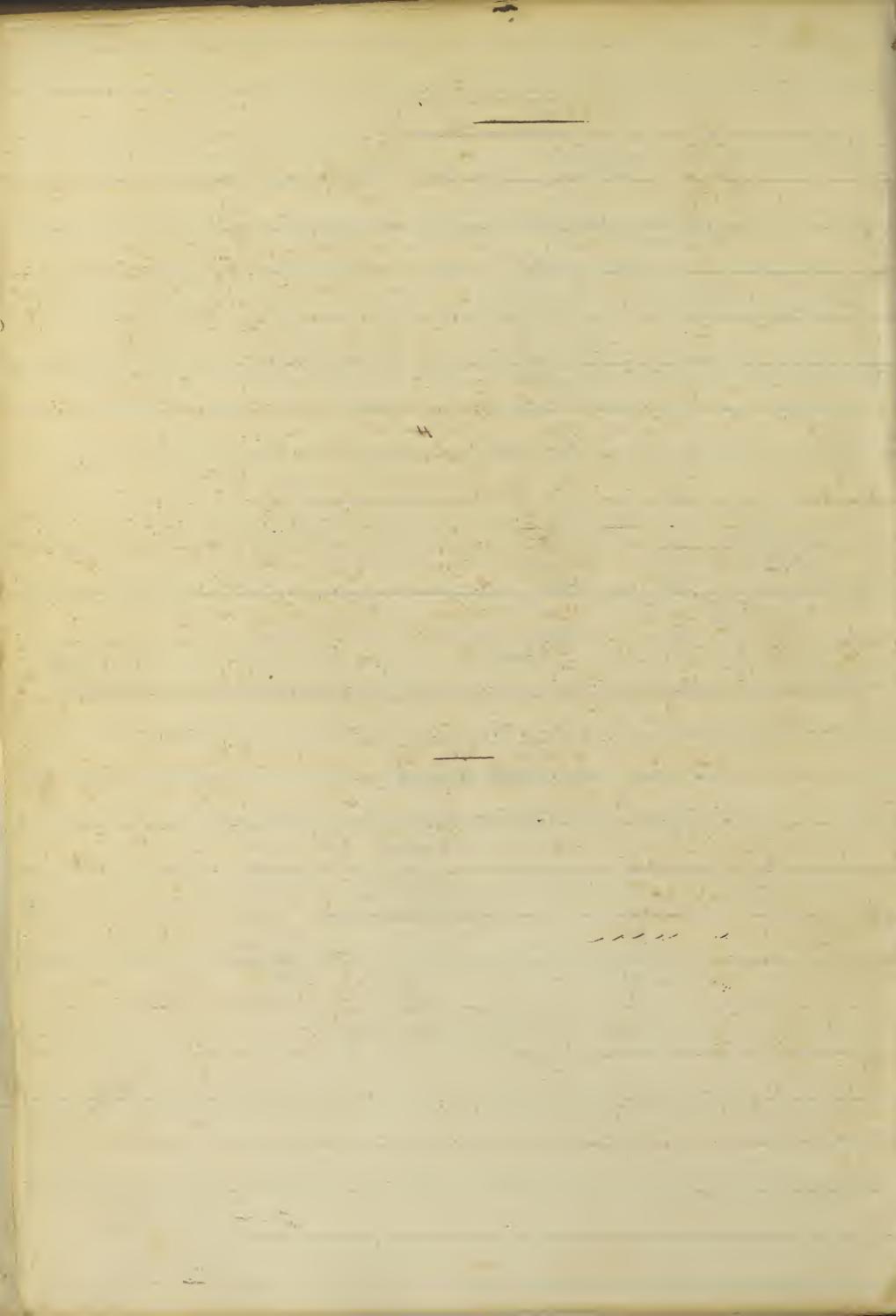


Plate 98.

1. Ins. — Coll of C.R. Dodge Count.  
 2. " cocoon on Apple tree bark — coll. of McSaunders Mac
4. " L. said to destroy foliage of Cranberry  
 Dr G. Goodell
5. " Arizona Dr Palmer
6. " " "
8. " " "
9. " " "
10. " " "
12. " Cannt. coll of C.R. Dodge Sep
13. " N.H. " " " "
14. " Arizona Dr Palmer.
15. " " "

Plate 99.

- fig 5. Ins fm Colorado by Dr Palmer
8. " " " " " *Cryphobolus incandescens* Gr
10. " " " " " *Cryphobolus deductus* Morr

Plate No.

- Fig 3. Border Arizona & Mexico by Dr Palmer. 1869.
4. Guamas sonora near Arizona " " " "
6. Tenuis border Arizona & Mex. by Dr Palmer 1869.
8. Colias " " " " " "
12. ~~atrid~~ ~~black~~ ? " " " " " "
14. ~~atrid~~ ? " " " " " "

Plate. CII.

- Fig 10. fm Dr E Smart. South Calif.
12. " " "
14. fm Rev. Cyrus Thomas. Illin
16. " " "

*C*<sup>i</sup>  
Cannulae

|    |  |      |                |                           |
|----|--|------|----------------|---------------------------|
| 1  | only one sp  | 1869 | from Dr Palmer | La Paz bor Co Calif & Ws. |
| 5  |  | "    | " "            | borders Arizona & Mex.    |
| 6. | { rather common as there<br>were several mutilated<br>sp | "    | " "            | "                         |
| 9  |  | "    | " "            | "                         |
| 10 |  | "    | " "            | "                         |
| 11 |  | "    | " "            | "                         |
| 12 |  | "    | " "            | "                         |
| 14 |  | "    | " "            | "                         |
| 15 |  | "    | " "            | "                         |

These marked Dr Palmer, from the borders of Arizona & Mex I may be included in the No. Lep. (Dr Palmer)

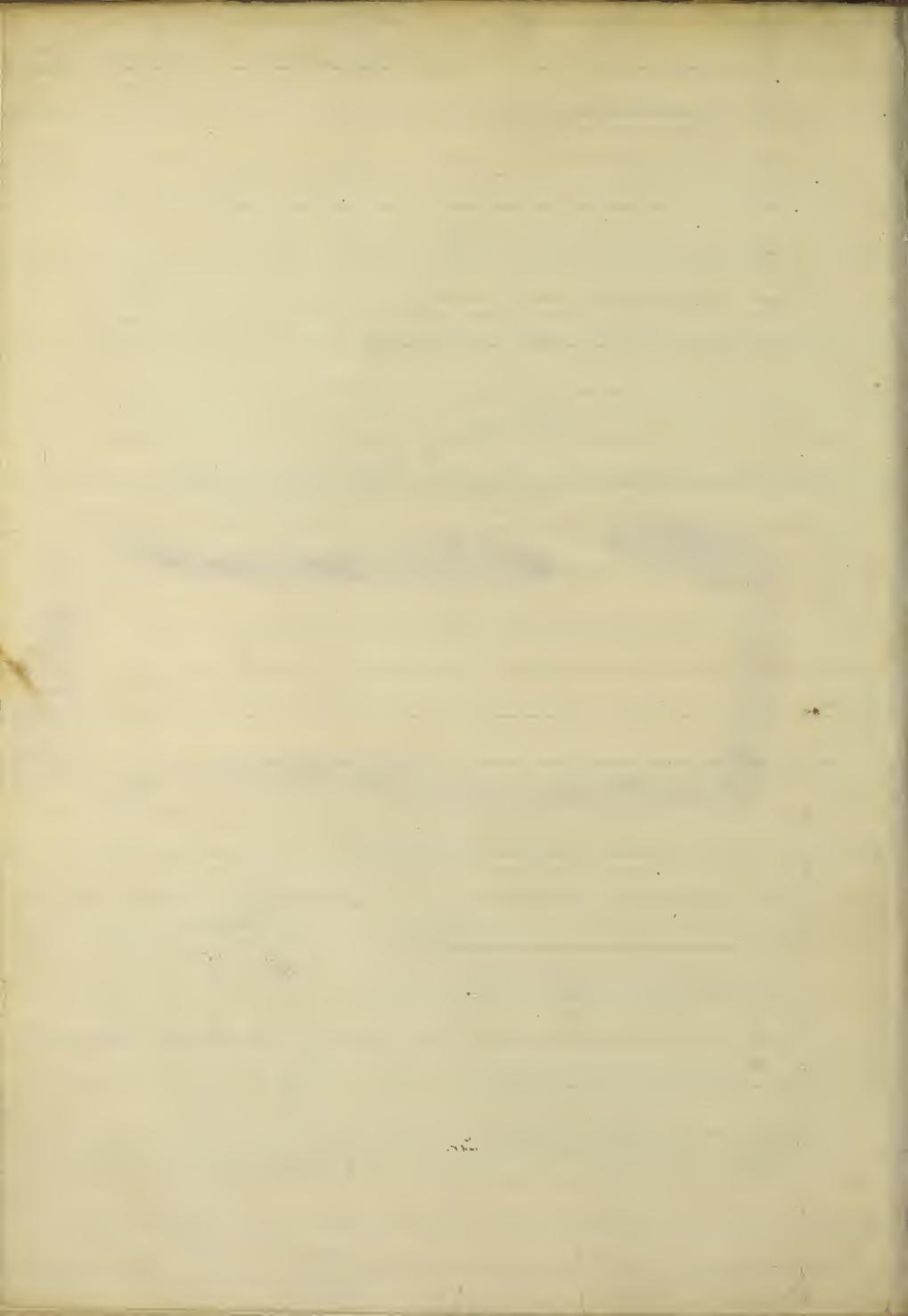
## Pl. 104

1 found plentifully on Sycamore or Button Ball Md. July  
webbed in leaves, pupa formed in webbed leaf  
Insect appears in about 10 to 14 days.

1 Larva found in the leaf of Tulip poplar; it doubles up the leaf generally at the midrib or along one of the principal veins fastening it together with a silken thread. It feeds upon the plain noburna causing the upper part to turn brown. When disturbed retreats into a narrow case or passage spun along the principal rib. The pupa was formed in a most singularly shaped cocoon which is formed by cutting out a semicircle of the leaf on each side leaving but a very small piece of the leaf untouched in the middle. <sup>with a few silk threads</sup> A sort of hammock is formed as the leaf is suspended by each end in a complete circle around the leaf., it is to be remarked however that although two caterpillars were found in confinement make similar cocoons in confinement no other leaves were found on the trees cut in a similar manner

Insect appears in about 10 days after the cocoon is made

|     |                  |  |
|-----|------------------|--|
| 5   | Oak miner        | forms a blotch on the leaf of Oak July No  |
| 6   |                  | from Mr Curtis' Knoxville Tenn   |
| 7   |                  | " Dr C Smart South Calif   |
| 8   |                  | " Dr Palmer St Thomas Utah   |
| 9   |                  | " Mr T Curtis Knoxville Tenn   |
| 10  | Catreala         | see p. 115.  |
| 12  |                  | ? Hab N.S.   |
| 13. | -                | from Mr T Curtis' Knoxville Tenn   |
| 15- |                  | ? Hab N.S.   |
| 17  |                  | from Dr Smart South Calif.   |
| 18  |                  | ? Hab N.S.   |
| 19. | Glechis cercidis | { Glechis green raised on holted with white<br>finches on the Linden tree No<br>by Mr C Lodge or Padua |



## Pl. Q

2. (think) *Lemonia palmeri* of Edwards 1869. 3 species from Dr. Palmer. *G. Thomas*, Utah  
only captured in the evening when resting on bushes.  
12 fm sp in coll of Boston Soc Nat His. fm C W Belfrage Waco Texas.

## Pl. 106.

fig 4. No. 142. of Harris collection in Boston Socy of Nat Hist.

5 fm California - BSNH.

6. no generic name. but (?) *Cenocesceus* of Pack. No. 746. of Harris coll in BSNH

7. No 247. Harris coll in Boston Soc Nat Hist

8. No 659 " " " " "

9 fm Mr Sprague. (think an Apple)

10 No 658. Harris coll in Boston Soc Nat Hist

11 fm Professor Parker, Grinnell, Iowa. in BSNH

\* 15. fm Mr Sanborn Mass.

16 fm Mr Sprague Mass

17 " " " "

24 L. an Lycamore webs in leaf. Aug. (very pale green striped longitudinally  
head & fore part nearly black.)

27. Lar found by Mr C Dodge in Ohio on Dogbane (*Apoctynum*) 26 May  
they appeared to be gregarious, many of them keeping near each other  
in confinement spinning webs over the leaves, cocoons formed in corner  
of box of rough gummy silk

## Plate 107.

2. fm Mr Sanborn Boston. 1870.

4. " " " " Therina peroidaria Hst

5. taken in store pupa 10 June in slight silken cocoon. Ins. July 2. P. Sprague Boston

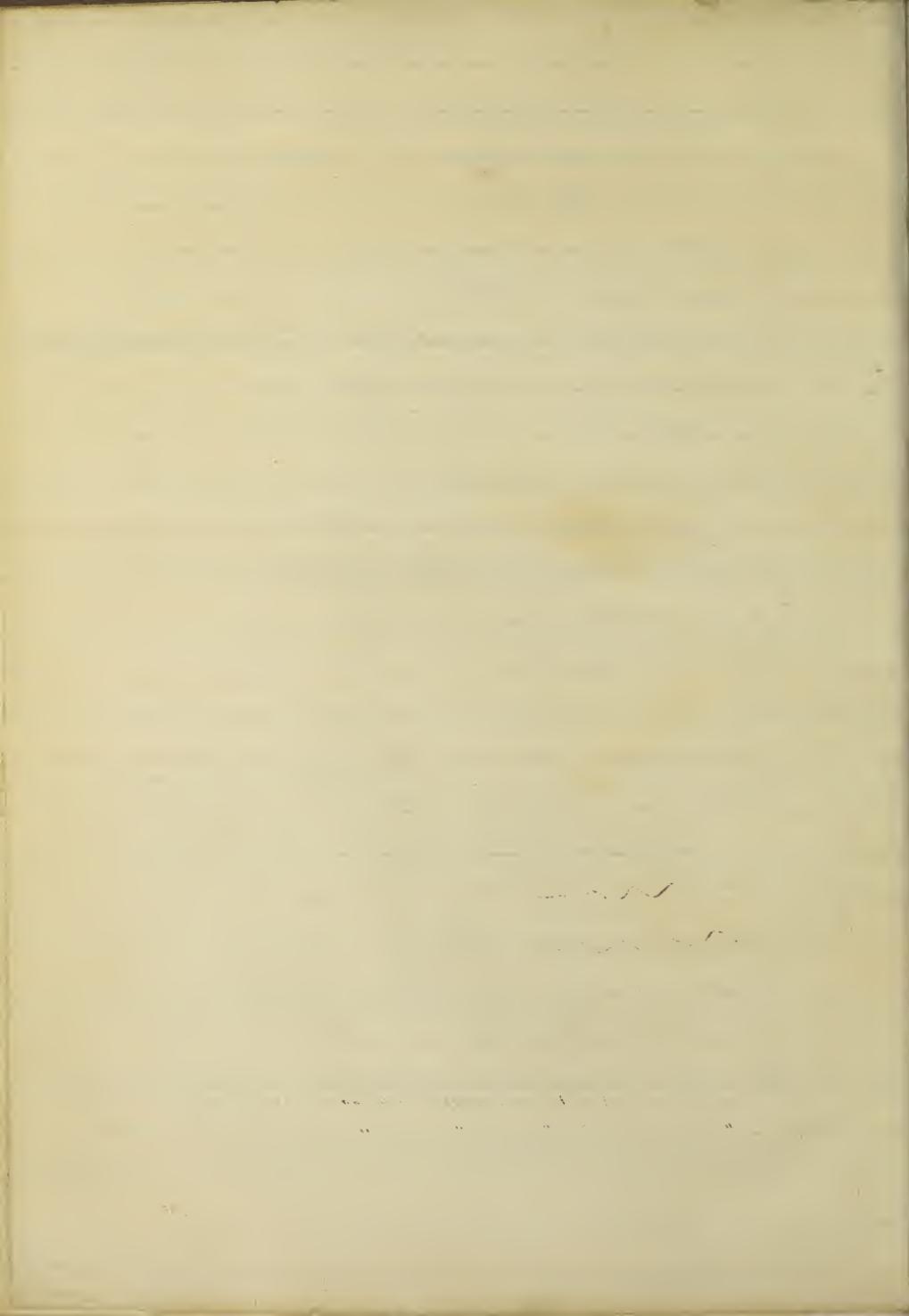
7. Fire Island beach on Golden Rod in Sep. by Mr Sanborn.

14. fm coll of Mr Sanborn Mass

15. " " " "

17 tried Sep in the same box as Lar. pl 106 fig 27. on Dogbane, but cannot be  
certain as only one moth appeared all the rest hibernating as larvae in  
cocoon.

18 fm coll. of Mr Saunders. Lar. marked on Currants.



## Plate 108.

1. Imago  
2. L.P.J.

(Lar. 29/34 Oak Md) Ins. June following.

Lar. 29/34 Acceleris nudifrons eats flowers 24th life.  
Cocoon pale yellow white formed on side of breeding cage  
Pupa 5th May.

Ins. 22 May.

Lar. color bright green dorsal longitudinal line darker with a double line on each side  
head more of an amber color than are 2 black spots on the upper part of 2d segment the  
caterpillar is sparsely hairy & the segments of body are of a yellowish color when they  
touch each other. The Imago is of a shaded silver gray color shaded with a  
blackish color of the large black marks on the upper wings is formed by raised scales. Md  
in specimens bred.

3. L.P.J.

Mr Burr. H. in terminal twigs of Peach burn now into  
wood & also eat bark on young shoots.  
These insects were exceedingly numerous in May & June in the  
twigs of peach trees & almost invariably kill in a few inches  
of the end of terminal shoots. — They are exceedingly  
difficult to see, only one perfect imago being reared from  
more than a dozen larvae. — Can readily be found  
by selecting only new terminal shoots as have turned brown  
have the leaves more or less withered.  
L head shield black. body reddish brown. —

Note this larva resembles Lar pl 10 fig 4 found in Apple

- 4 L.P.J.

L. found in young terminal bud shoot of  
Hickory. 7th May. & totally destroyed (Pl. 2)  
the interior pupa was formed in a  
cocoon of grains of sand woven together near  
the surface of the ground. — 4 larvae found of  
which only one changed into the pupa

L. brown head. darker.

- 6 Ins.

Oligia Chalcedonia Hub sent by Mr. J. D. Thunigate Bellfonte Pa.

- 9 X "

" " Mr Saunders. Canada

- 20.

U.S.

## Plate 114.

The Larva feeds on Oak —

## Plate 117.

3. Larva feeds on Currant  
5. Insect from Mr W S Keefer. Mayport Florida  
8. " " " " "  
11. This larva feeds on the inferior of the stalks of Peltandra a very nice or narrow Aroid  
a plant found growing in the marshes near Washington. — almost every plant more or  
less affected by it. L. Jun 20. very dirty, filthy larva & difficult to keep it makes so  
much muck dirt. Pupa was formed in a loose web. under cover of the surface much  
came out in Aug & Sep.  
13. Larva found June & July on Strawberry & Whortleberry. The Larva spins a loose web  
on surface of the earth. Egg. & the perfect fly come out in Sept.

OVER

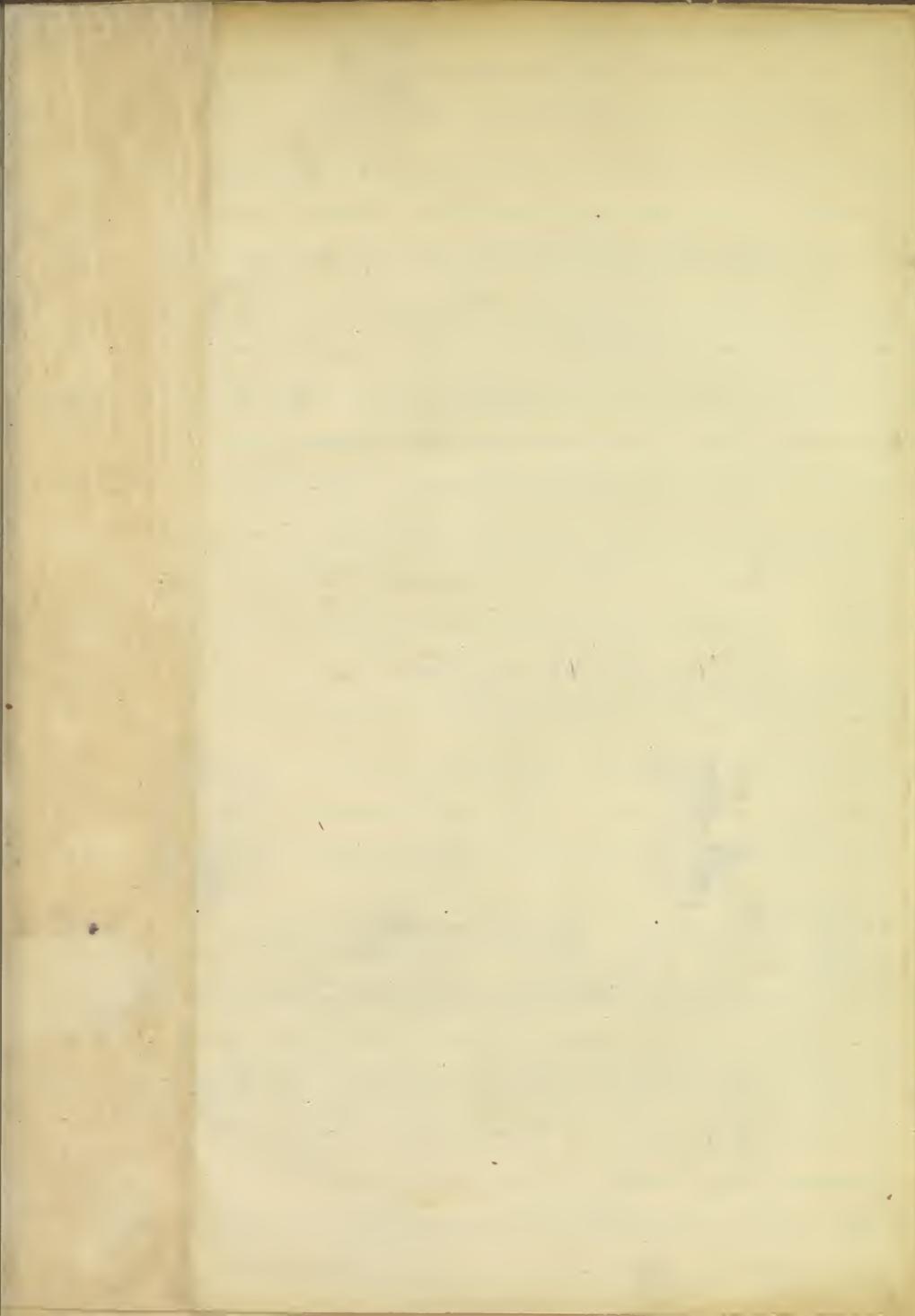
AN

Plate 117 continued

- fig 15 L on Soldago Md. July 15. L dark greenish head shield black in terminal  
shoots of foliage. ties leaves together & feeds inside on stalk &  
slightly hairy.
- fig 16 L on Wild cherry May 7 Md. webby between leaves cocoon in leaf  
head & first segment black. Dorsal stripe darker slightly minute
- fig 19. L on *Osmanthus* <sup>cladoniae</sup> ~~virginicus~~ Flowering fern <sup>July</sup> Larva ties the extremity of the leaves  
together forms a shallow ball in which it lives feeds & changes  
into the chrysalis the insects appear early in Sept.
- Calyptula green with amber brown hair & part of first segment. July 20

Pt. 118

Chilo 126



Insects to kill.  
Moths &c

fire at night, or half an old sugar baghead  
or any open vessel with a broad surface  
partially filled with water & a lighter glass  
lantern set on a block or stone in the centre  
the sugar baghead <sup>alone</sup> attracts them by day also  
or wide mouthed glass bottles filled with  
sweetened water & vinegar

See Aug. 1862, 181

Lentner 1869 Lentner in annual 46. 11.

Want to fig LSP Hamatites etrusca Pack  
Ball on plate <sup>the Wall W.</sup> 229  
not figured

Phaeodes transversata Wall Pack Muay Sep 1870  
Lamia nigrofasciata <sup>Am Nat. N. 688,</sup>  
Current

Evening minnow

Xant. Semerrock  
Want Geophagus macrourus Cope

~~where is *Hednota* *Proutianus*~~  
~~of Dr. Etchelbyton seen 4/2~~

*Agratis incisus* p 103 color  
what is # 60/20 is it a *pseudaglana*? He 97/32

Desiderata. from Saunders list Can.  
sent Jan 1870

Cymatophora cunplaga  
*Leptinia latibrida*  
" — dormitans  
*Bomophila spectans*  
*Microcœlia retardata*  
*Aeronycta fasciata*  
— " — leporina  
— " — acericola  
— " — unicolor  
— " — longa  
— " — decolorata  
— " — virgata  
*Balsa obliquifera*  
*Mythimna decolor*  
*Scucania straminea*  
diffusa  
insuetus  
multilinea  
*Ranaria intractabilis*  
*Gortyna flavago*  
*Hedraea ornamentosa*  
" ligata  
*Nephelodes rubrolans*  
" signata  
*Xylophasia verbasoides*  
" undocilia  
" lateritia  
" Saphrygma macra  
*Mamestra brassicae*  
" abyssi  
" dubitans  
" insulsa  
" nestriacata  
" agnacula  
" contorta  
" indirecta  
" nigriceps  
" displicens

*Apamea* modica  
magnata  
glaucoverna  
dormissa  
rubrescens  
velata  
*Celaena* contrahens tow  
*Agnotis* subguttata tow  
" tessellata "  
spissa  
triticea  
vireooides  
formula  
velutina  
obtinate  
velutina  
indirecta  
instructata  
illata  
velutina  
*Sphaerotes* ruficollis  
pyrophilus  
*Graphiphora* angus  
luteocauda  
leucostoma  
expansa  
seconda  
*Orthodes* Candens  
*Cerastis* anchocellulæ  
*Taulinia* spicata  
patefacta  
*Palo gophora* peregrina  
*Eurus* herbida  
occulta  
mbripifera  
numerosa  
*Hadena* chœnophobie  
tricholopera  
contulua  
*Xiglena* convaria  
*Cucullia* chamomillæ  
" florea  
*Aspila* subflexa

Some error in Connect  
*Hedysarum marginatum*  
& *Oxytropis instabilis*

~~Post~~ new

Want. *Xylosteum cuneatum*  
Riley 3d Rep. 185.

Want. *Luzula*  
*Glyptophyllum hypanthoides*  
Riley 3d Rep. 185.

want  
"Oxytropis varicosa"

*Dactylis glomerata*  
L.P. Am. Env. 2. 129

*Brachypodium continentalis*  
100-

*Arenaria pedunculata*  
Riley 2d Rep. 109

*Lathyrus palustris*  
Riley 2d Rep. 111

*Lygodesmia canescens*  
Riley 2d Rep. 112

Ex? Feb. 1870 only.

See *Eriogonum*  
*Philyria* *Gibba* *Silicea*  
Hornem.

11. Aut.  
"Arenaria pedunculata"  
Riley 2d Rep. 112. 225.  
"Lathyrus palustris"  
"Spuria" Horn.

{ *Nerulum album*  
"Minutum" Hebe

*Grophopuspora branickii*

"*Stellaria*"

*Cardamine multiflora*

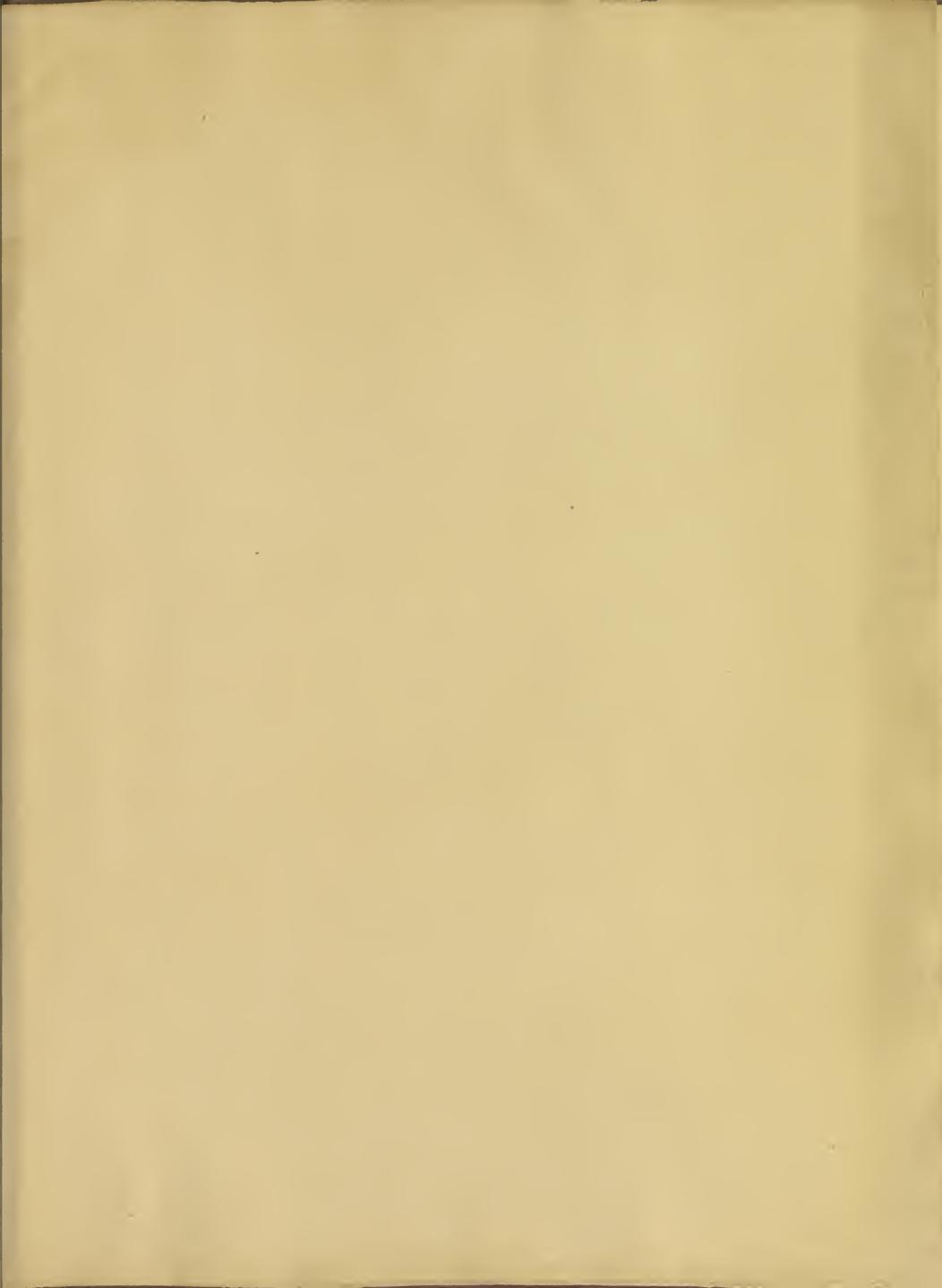
*Ranunculus latifolius*

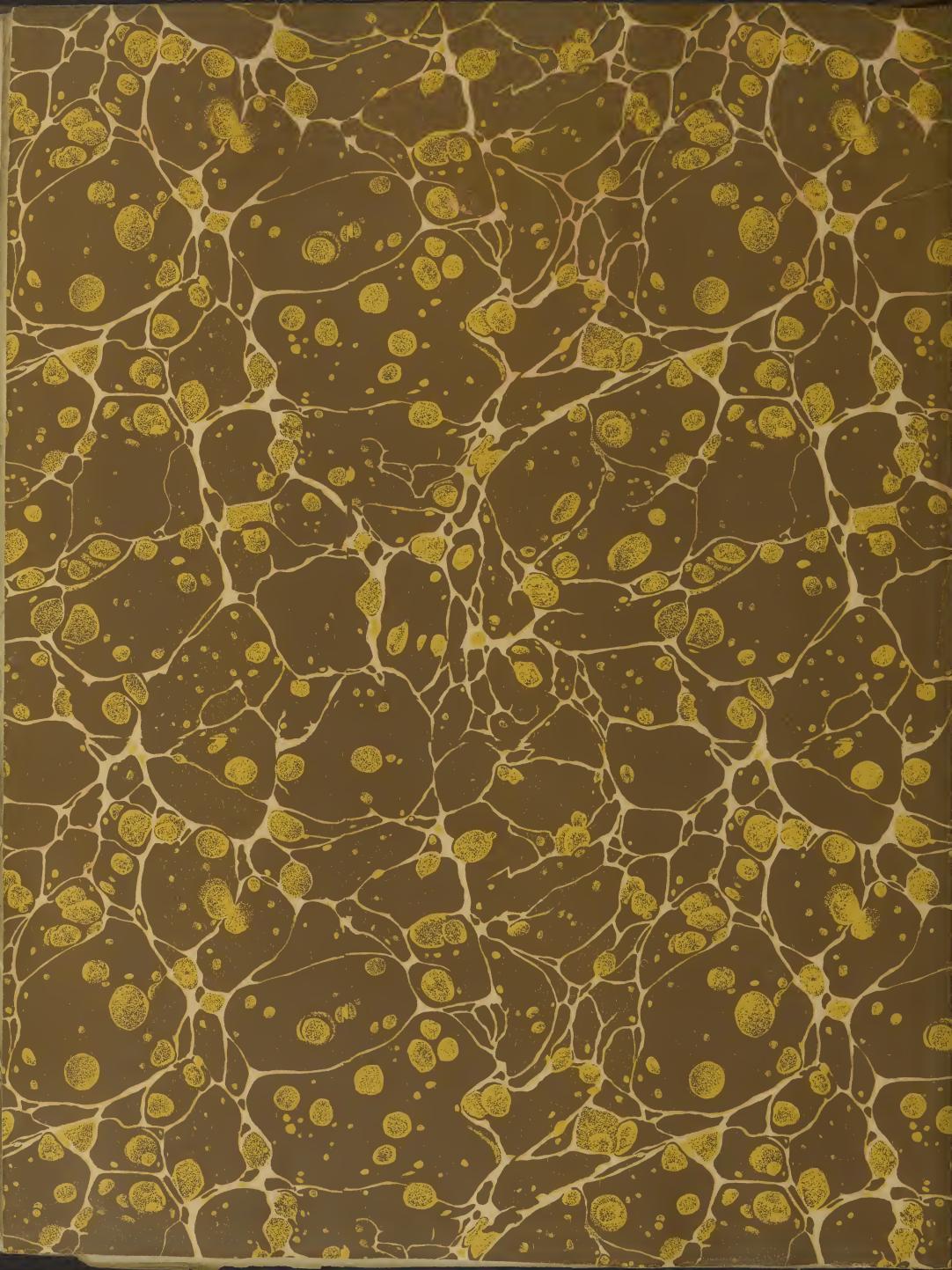
*Thlaspi laciniatum*

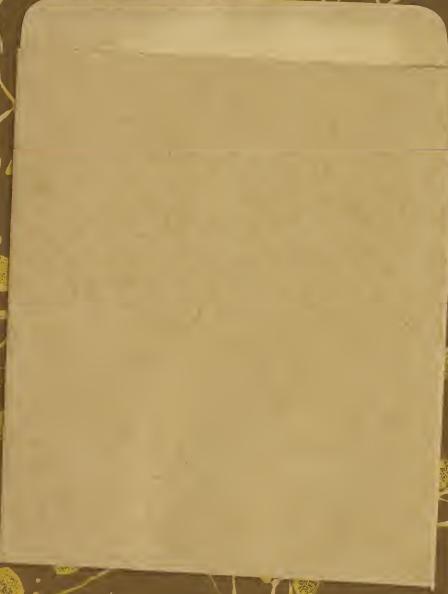
*Anemone lyngbyoides*

*Grindelia integrifolia*

*anthia ferruginea*







All leaves deacidified with  
methyl magnesium carbonate.  
January, 1980.

Carolyn Horton & Associates  
430 West 22nd Street  
New York, N.Y. 10011

